THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES.

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Progress of Improvement.

CERTAIN characteristics have marked nearly every age of the world. The peculiarity of the present century, as every one knows, is rapid improvement in physical sciences and useful arts. Take the art of traveling as an instance—forty years ago, the same modes of locomotion were in use that existed in the days of Homer—horses, chariots, sailing vessels. Middle-aged men can remember when a three day's voyage in a sloop from New-York to Albany, was not regarded as slow traveling. The fleetest English mail coaches in 1825, did not exceed in swiftness the ancient chariot races at the Olympic games. Now, all at once, right under our own eyes, an invention has sprung up and been perfected, which will carry a thousand people across the face of the country, and leave the chasing tempest behind. About ten thousand miles of railway have been made in the United States, and more than this in Europe. About three thousand steamboats are plowing American waters.

If some Rip Van Winkle of the days of young George the Third, could have slept an eighty years nap, and opened his eyes in these first weeks of 1853, he would have seen wonders all about him, which had they been predicted at that time, would have stamped any one with the wildest insanity. He would behold vessels of enormous size, and without sail or oar, stemming the tide of our largest rivers, or sweeping under bare poles the face of the ocean; huge carriages, holding sixty men each, thundering through all parts of the world with the swiftness of eagles; bridges, hung on wires, spanning mighty chasms, and vast rivers; men, a thousand miles apart, holding familiar converse with each other, as if face to face; artists, painting with the flash of sunbeams; newsmen, writing with the lighting; and, not contented with his ordinary range on the surface of the earth, man rising on wings of hydrogen and riding on the wind or soaring through the clouds.

These bold and surprising results are scarcely more remarkable than other equally useful and less obtrusive inventions. The cotton-mill laborer has gained two hundred fold in the amount of goods produced; explorations in mining are reduced to great precision through geology; the engineer knows the exact strength of his structure before the first stone or timber is laid; cumbersome oil-lamps for lighting cities have been wholly displaced by the clear dazzling flame of a stream of gas; printing-presses throw off ten thousand copies an hour; huge steam engines, working with their hundred arms through vast factories, perform by their perpetual throb, the labor of thousands of men.

These wonderful improvements, which in the space of half a century have wrought such a mighty change on one-half of the surface of this old earth, and which have been effected chiefly through the triumphs of science, have very naturally led many to suppose that improvements equally astonishing might be made in the great art of agriculture, if science were only applied to this as it has been to other arts. Beautiful theories have been erected; minute directions have been framed in the laboratory and in the closet, which farmers were to follow out, with confident expectations of golden results, and a great revolution was thought to be very closely at hand. But these theories, and these directions, although claiming the most eminent chemists as their originators and endorsers, when subjected to practice, were found to be utter failures, and the beautiful promises which went before them, proved as delusive as the flattering mirage to the fainting traveler. Such things, it must be confessed, are not a little disheartening; but they were the natural results of superficial reasoning. The great laboratory of nature, where months are required to effect chemical changes, and where these changes are constantly influenced, arrested, and even reversed,

by fluctuations in temperature, moisture, and by many other causes, all in the open air, where substances, slowly and imperceptibly evolved, are gradually dissipated unseen, and many of which are beyond the reach of the most powerful microscopes—this great laboratory is totally unlike the chemist's artificial laboratory, where changes are generally wrought in a few minutes or even seconds, and where scales, test-glasses, and receivers preserve and measure everything with the utmost precision, and controlling influences are entirely at the operator's command. It is no wonder, therefore, that even chemists themselves should greatly differ on the action of single substances upon plants, as they have done, for example in the case of lime and of gypsum, in the latter of which about a dozen different theories have been presented to the world.

Notwithstanding these difficulties, science is constantly offering to art the most valuable suggestions, and serves as a guiding light to accurate experiment. It is in this way alone that its triumphs are to be effected, although not with that rapid and brilliant progress that has distinguished the mechanic arts. The great obstructing cause, at the present moment, in the way of scientific agriculture, is looseness and inaccuracy in experiment. Very precise theories are applied without any precision whatever in practice. For example, the absorption of ammonia by the soil from rain, dew, and snow-water, is over and over again urged upon the attention of cultivators, as an eminent source of fertility; but the ordinary average *amount* of ammonia contained in rain or dew, absorbed by the soil, and appropriated by plants, has never been communicated to the practical farmer, and he has no means of guessing whether it may be equal to a ton or only a pound of good horse manure per acre. Stirring the soil is said to promote the absorption of the elements of fertility from the atmosphere; and again, stirring the soil, (as in a summer fallow) is said to promote the evaporation of the elements from the soil. Are both correct? and if so, how can the farmer ever ascertain on which side the balance lies, unless the quantity absorbed, and the quantity escaping, are both determined? We might give many other examples showing the little value of practical reasoning, or even of ascertained facts, without the determinations of *quantities*.

There is no doubt that the practice of agriculture is destined yet to outstrip everything known at present, but it will not be through any long and sudden strides. It has already, in the last fifty years, doubled the effective results of labor, by improvements in mechanical means and chemical influences. Plows, cultivators, sub-soilers, sowing machines, horse rakes, reapers, threshing machines; draining, pulverization, management of manures, systems of tillage, rotation, improvements in seeds, improvements in animals—all have placed the farmer on a very different footing from that of the close of the last century. What will fifty years more disclose? This is a most interesting question, and must be answered very much in accordance with the labor intelligently expended in accurate trials of the promptings of theory; and to this we wish to invite the attention of all who have public spirit, enterprise, and knowledge, to induce them to undertake the task.

An Agricultural College.

By degrees, the idea that farmers' sons need a peculiar education to fit them properly for the duties and labors of an agricultural life, has been gaining ground. There has, hitherto, been just light enough on the subject of improved and scientific farming, to make the darkness visible; and calls for some institution, where the theory and practice of agriculture should be thoroughly taught, have been loud and frequent. Not a few plans have been presented to the public through the press, and urged upon the Legislatures of our states, in the shape of bills of incorporation, praying for large appropriations; but none of them have seemed to satisfy even a majority of farmers themselves, or to answer the purposes of such an institution. As a general thing, these bills have contemplated the expenditure of a large sum of money in the erection of buildings, the purchase of a model farm and the stocking it, the salaries of an indefinite number of teachers and professors, and large provision for the support of students. The projectors have failed to make equally evident the practical results of the plan proposed, and have been betrayed into a detail as cumbersome as it is unnecessary. There has been a seeming desire to found an institution to rival all similar ones in the world, rather than to adopt a system, which, by its simplicity and inexpensiveness, would recommend itself to the good sense and sound judgment of the age. These efforts, inasmuch as they have been unsuccessful, have thrown odium upon the name of an agricultural college, and awakened a distrust in many minds whether any such thing is practicable.

We believe there is a more simple and feasible way of securing the benefits of such instruction as the agriculturist needs,—a way perfectly consonant with the present system of education, and which would soon place agriculture on its proper footing as a science and an art. It requires only a glance to see that the farmer needs a course of study in many respects different from the one usually pursued at our academies and colleges, and that this course should be fundamental and thorough. It is for this reason that the agricultural college should be a distinct organization, and devoted enclusively to branches of study which have immediately to do with the profession of agriculture. The importance of separate institutions for the advancement of any science or art, is very generally acknowledged. The divine, the lawyer, and the physician, all go from a preparatory course of study in the academy or college, to one specially organized for the purpose of teaching the profession they are to follow. A Normal School is considered necessary to fit teachers for the proper discharge of their duties, and government claims the right to educate students for the United States service, in its own way. It is a rule, without an exception, that an education should have as direct a bearing as possible on the course of life for which the student is destined. The more the student

can learn, the better; but if, with all his knowledge, he fails to secure that which he most requires, his education has failed of its end. In order to the successful prosecution of the study of the sciences connected with agriculture, there is requisite some previous study, and the better disciplined and more developed the mind is before entering upon the studies of an agricultural college, the greater will be the benefit to be derived from the course. At least the student should have a good elementary education, have acquired habits of thought and application, and be of sufficient age to have some settled purpose in life, in order to enter upon the study of agriculture with profit.

The need of an agricultural college, distinct from any other, will be more apparent when we consider the essential elements of an agricultural education. In a classical education, the text book is the main thing. Its object is to give the student discipline and mental furniture, and then he is left to apply his acquired power in any direction he pleases. Not so with an agricultural education. Theory and practice, knowledge and its immediate application, thinking and working, are inseparably connected. The institution that should propose to teach agriculture by lectures and text-books only, would go a begging for popular favor. An agricultural college without a farm, would be very like an observatory without astronomical instruments, or a medical college without physiological plates, skeletons, and specimens of prepared anatomy. Everything should be taught in its practical bearing, every principle should be illustrated by the facts which go to establish it, and the lecture-room and the work-shop, the student's room and the field, should not be a Sabbath-day's journey apart. The agricultural college, which should educate the mind, and neglect physical education, would only half do its proper work, if so much. The phenomena of vegetable growth and their rationale, the reasons for all the details of farm labor, the necessity for thorough tillage and draining, the kind of manure a given soil requires and why, the philosophy of a rotation of crops, the structure and composition of soils, and the system of farm economy and farm management, are among the most important subjects, which should be combined in a course of study. It would be necessary to use text-books on vegetable Physiology, Geology, Chemistry, Botany and Entomology, but the system of teaching should be as simple and familiar as possible, illustrating, at every step, principles, by reference to farm practice.

In settling upon the leading studies in an education of this sort, it may not be amiss to observe, that there has been an undue importance attached to the agricultural chemistry, technically so called, which bases scientific agriculture upon an analysis of the soil. The views of Prof. NORTON, on this subject, so nearly accord with our own, that we quote from his address, before the last annual meeting of the New-York State Ag. Society:

"I say to you frankly, that when you meet with a man who pronounces with entire confidence upon every theoretical point, who reads his analysis of your soil or plant, as you would read a book, *distrust* that man; for he is either intentionally imposing upon you, or he thinks he knows what he *does not*. I am a firm believer in the efficacy of soil analyses, but at the same time must acknowledge that our information in this department is still far short of what it should be. My own opinions upon their results, are always given with hesitation and with qualifications, and each year makes me more cautious instead of bolder, more inclined to believe that our reading of nature s law is still imperfect.

There are at this moment some of the most celebrated European chemists, who argue that our present system of soil analyses is founded upon wrong principles, and is almost worthless. Their views may be successfully opposed by the results of practice alone, yet the very fact of their being entertained in such quarters, shows that there is much of obscurity and uncertainty yet hanging about the subject."

No one would rejoice more than ourselves, were all that sticklers for soil analysis claim, strictly true. It would be pleasant, certainly, to take a sample of one's soil to town to-day, and in a week's time to quietly put a statement of its deficiencies in one side-pocket, while the requisite manure might be stowed away in the other. If such results were possible, we should say by all means let us understand chemistry—let us learn to analyse our own soils, whether it require two years or ten to master the mysteries of the laboratory. But we have the best of authority for saying that the law and gospel of correct farming do not hang exclusively or mainly on this principle of analysis. It is one among the many branches of science, which it is the province of the student of agriculture to investigate, but we can conceive of a thorough, scientific farmer, who could not tell in the twinkling of an eye, or to the thousandth decimal, what was the exact composition of his soil.

The idea to be kept promi nent in maturing a definite plan of an agricultural college, is, that it should be as simple and inexpensive aspossible, taking into consideration the absolute requisites of an institution, whose primary aim is to teach the principles and practice of agriculture. It is of the greatest importance to adapt it so precisely to the confessed wants of farmers, that it shall combine every thing essential, and have nothing superfluous. We hope to show that the essentials of an agricultural college are quite limited, and can be secured without a great outlay.

First, there is requisite a farm of moderate extent, buildings for the accommodation of from thirty to fifty students, and an apparatus for the illustration of the different branches of natural science. The course of study may be divided into four departments, as follows:—

1. PRACTICAL AGRICULTURE.—Instruction in this department, should embrace the whole routine of farm culture, management and economy,—be elementary, accurate, and such as to lead the student to correct habits of thought and careful observation. The Professor, who would be in fact President of the College, and have the general direction of the farm, should, by all means, be a practical agriculturist, familiar with the every day business of the farm, and have the ability to communicate readily with the young mind, and lead it by easy stages to the comprehension of the more profound laws of nature. The use of text books in this department must be necessarily limited, and the system of instruction should be colloquial as far as practicable, making it always a main point to illustrate every principle by direct reference to some practical operation on the farm. The practice of requiring each student to lecture upon a given subject to the class, after which he is criticised by his fellows and the professor, which has been practiced in agricultural schools on the Continent, is worthy of adoption. A certain number of students should be required by rotation to

assist on the farm, under the immediate supervision of the instructor. The necessity for manual labor will be apparent, without argument; for the college is for working farmers, men who need the bone and sinew of physical strength, as well as the acumen and activity of intellectual power. In connection with this department, there should be a smith's and carpenter's shop, where the students can familiarize themselves with the use of tools, and, if mechanically inclined, learn to manufacture, alter or repair their farm implements. In short, the college should be furnished with all the conveniences and appurtenances of a well appointed farm-establishment.

2. NATURAL SCIENCE.—The department of natural science, is quite intimately connected with the other, and it should be taught with special reference to its bearing upon agriculture. A training in the fundamental principles of Chemistry, Geology, Botany and Entomology, would be necessary, but the mode of instruction should resemble the one detailed above. It has been said that such a course of tuition is superficial, but without just grounds. The student of Chemistry, however well drilled in his text book, must go into the laboratory before he becomes a chemist—the student of Geology and Botany must go out in search of the facts which uphold his principles, and see their application, before he can lay any claim to being an adept in the sciences. It is at this point, that so much of what is termed education, fails; and we insist upon this system of teaching as the only one fitted to the purposes of an agricultural college.

During the summer months, these two departments would be all the institution would require, but in the winter and early spring months, when there is little opportunity for practical labor and observation, instruction should be given in Mathematics, Veterinary Surgery, and Pathology.

3. THEORETIC AND PRACTICAL MATHEMATICS.—As a means of discipline, theoretic mathematics stand foremost, and if the student is not already well acquainted with the principles of the higher branches, time cannot be spent more profitably than in acquiring a thorough knowledge of them. It should be borne in mind, that the student is supposed to have mastered the primary mathematics in his academical course. It is also highly desirable, that the farmer should know enough of practical surveying, to come to a correct estimate of his own farm, enough of civil engineering to lay a drain scientifically, and enough of mechanics to understand the working of his implements and the relative power of machines. The method of teaching in this department should, we think, be somewhat different from the one usually adopted in our academies and colleges, and made more simple and practical. The knowledge and experience of a thorough mathematician, would suggest means for accomplishing this.

4. VETERINARY SURGERY AND PATHOLOGY.—The importance of instruction in this department is too much a matter of every-day experience to demand explanation. Lectures on animal physiology and anatomy, illustrated by skeletons of the domestic animals, and giving a synopsis of the diseases to which they are subject, with the best modes of treatment, are quite indispensable to such an institution.

In the winter term, courses of lectures in the first two departments should be given, embracing a systematic review of the subjects pursued in the summer term, which, with the last named departments, should be made accessible to those who have not the time or the means to avail themselves of the entire course of study, by the payment of a small sum for each course of lectures. This would at once furnish the popular element in the college, and make its influence more universally felt. It would open the institution to a large class of young men, who are under the necessity of laboring during the summer, and who could gather here in the winter to their great advantage.

With regard to the means of carrying such an institution into immediate operation, and the expense attending it, the following plan and estimate are suggested as feasible and within bounds. Let the Legislature grant an act of incorporation to certain individuals, and endow the institution with a sum not to exceed $30,000, to be paid when an equal sum should be raised and invested permanently by the corporation of the college. Allow the farm, with the necessary buildings, implements, stock, &c., to cost $30,000; a library, apparatus, &c., for a commencement, $5,000; then invest the remaining $25,000 as a fund, which at 6 per cent interest would yield an income of $1,500, which might be applied to the salaries of professors, or otherwise to the purposes of the college. The farm, with prudent management, would more than pay the expense of carrying it on, and ought to afford profit enough to pay the salary of the President. This income, with the funds derived from the tuition of students, would place the institution above embarrassment, and secure its permanence. If there are not friends of an agricultural college sufficiently interested in the plan, and sufficiently convinced of its availablity to furnish the $30,000, we may safely conclude that the time for founding such a college has not yet come.

Having thus briefly sketched the outline of a course of study, which can be modified by those who have the college in charge, and the means of carrying it into effect, we ask, have we not a plan which is at once comparatively simple and inexpensive, and positively effective and useful? We will not say that everything desirable is comprised in the sketch, but it is a working model of a system which can be enlarged and rendered more complete, as the wants of farmers require it. It would demonstrate the principle which we assume at the outset, that an education of the right stamp is essential to the progress and perfection of a complete and rational practice of agriculture. The practical effects of such an institution might be slow, but they would of necessity be sure; for a man that begins right—begins at the foundation, and goes on rationally, systematically and understandingly, must be making constant progress. The endowment of it would, in a certain sense, give farming a dignity it has not now; it would say that agriculture has its science as well as its literature and art, and that the cultivators of the soil are entitled to the rank of educated men, and the honors and emoluments of a cultivated mind. It would give farmers' minds an impulse in the right direction, and stimulate them to a higher ambition than the mere digging for pecuniary profit. It would engraft upon a healthy, well-rooted stock, the scion of Improved American Agriculture, which would, in consequence, bear fruit more abundant, more worthy the rich, free soil in which it is planted, and the sturdy, independent character which belongs by right to the American farmer.

Use of Lime as Manure.

In compliance with the request of CYRUS INGALLS, of Dobbs' Ferry, N. Y., we furnish a few practical remarks on the use of lime

To apply evenly, it must be in a state of powder. It is usually rendered so by slacking with water, taking care to use only enough to reduce it, without moistening it into adhesive lumps. Authorities differ as to the importance of applying caustic lime, some believing it much better for using when fresh, and others regarding air-slacked lime, powdered marl, and ground limestone, as equally beneficial. We have not experiments sufficient to enable us to decide this point. The probability is the difference is not great, as the most caustic lime soon becomes saturated with carbonic acid.

The quantity per acre varies from 25 to 300 bushels. On land which has been long cultivated, and which contains but little organic matter, it must be applied very sparingly; while on new or newly worked land, and especially on peaty soils, or those which abound with decayed vegetable matter, it may be used in much larger quantities. On wet or water-soaked soils, it can be of no value—the land must be well drained. It is generally believed to lessen the adhesive nature of clayey soils, and to increase the firmness of light ones.

After having been reduced to powder, it is to be spread evenly over the surface, and then thoroughly intermixed. The best way is first to harrow the ground well, as soon as the lime is spread, and then to turn under this pulverized surface, a few inches by means of a gang-plow. It should not be plowed in very deeply. For spring crops, it may be applied in spring; for wheat, early in autumn. The season of the year for its application is not however a matter of very great importance, as its effects remain several years.

Lands which have been long and repeatedly limed, are frequently found to receive no benefit from its application. In such cases, peat or yard manures will be found of great advantage. In no case, indeed, is a permanent benefit to be expected, without the accompanying use of yard manure.

Cuthbert W. Johnson found an excellent result from the use of lime in a compost, made by mixing thoroughly the lime with about twenty times its bulk of ditch-scrapings, old banks or pond mud. Applied at the rate of 20 or 25 cubic yards per acre, he found this compost to increase by one-third, the products of natural soil. Whether it would do so generally, can be only determined by trial.

Culture of Potatoes.

Mr. PHINEAS PRATT, of Deep River, Ct., informs us that, after some thirty years experience and close observation, he has come to the conclusion that the potato rot is caused by an undue absorbtion of moisture by the balls, before they are fully ripe. The increase of the disease, of late years, is owing to a change in the nature of the plant, caused by excessive culture.

Whatever opinions may be entertained with regard to the correctness of this conclusion, the following preventives, as given by Mr. Pratt, are undoubtedly good.

1. Procure good seed; be sure that the grower of them had no rotten potatoes. If yard manure is used, plow it in deep.

2. If the land is wet and springy, drain it, and arrange the rows in such a way the surplus water will run off. If there is a gravelly or clay sub-soil near the surface, use the sub-soil plow, and in most cases your crop will be doubled besides preventing the rot. In a level, retentive soil, let the furrows between the rows be lower than where the potatoe lies. Straw, stubble, tan bark, leaves, peat, are all good in the hill. Without them the soil must be in good heart to grow potatoes well.

Potatoes are not much injured from water when fully ripe; the Mercers, however, most of any.

The Osier Willow—Its Cultivation, &c.

BY C. N. BEMENT.

Having frequently been applied to by letter, for information in regard to the cultivation of the basket willow, and knowing your desire to lay before your readers such information as is best calculated to benefit the farmers. I take the liberty of addressing to the readers of the Country Gentleman, such information as I possess on the subject.

"From the best information I can obtain," says W C. HAYNES. in Hunt's Merchants' Magazine, "there are from four to five millions of dollars worth of willows annually imported into this country, from France and Germany. The price ranges from $100 to $130 per ton weight. The quantity imported may appear large, and yet it is not sufficient for the consumption. In view of this importation. and the large sum expended for willows. would it not be well for our farmers and land-holders to give a little attention to this subject."

"The people of England," says the same writer, "until the year 1808. relied entirely for their supply upon continental Europe. Their supply was cut off by the breaking out of the war between Great Britain and France, so that after that period they were compelled to rely upon their own crops; and many associations in England offered large premiums on the best production of the willow."

The late Duke of Bedford, one of the best farmers of that day. gave much attention to the subject. which is vigorously prosecuted by his son, the present duke.

There are thousands of acres of land in this country, which in their present state are entirely useless. yielding little or nothing to the owners, which might, with very little expense, be planted with willow, and would yield a great profit. From my own experience, I am fully convinced that the willow may be grown profitably in this country, for less than fifty dollars per ton weight.

For several years previous to my leaving Three Hills Farm, I cultivated a small patch of Osier Willow, for the purpose of binding my corn stalks, in place of straw, and for making baskets for the use of the farm. The patch consisted of four rows, each fifty feet long. My attention was first directed to a more extended cultivation, from the fact of an offer made me by a German basket maker,

of one dollar and fifty cents for the cuttings of the four rows of one year's growth. I refused the offer, for the purpose of using them to set out a new and more extended plantation. The following spring the same German paid me four dollars for the cuttings of the four rows; and the spring after I sold them for nine dollars.

Accordingly, in the spring of 1845, I caused an acre and a quarter of a rather moist soil, too wet for the finer grasses, to be carefully turned over with the plow, and then thoroughly harrowed. It was then laid out in rows three feet apart, and set with cuttings of willow about eight inches long, one foot asunder in the rows. It took about 12,000 cuttings, some of which were quite small, which rendered the growth the first year quite diminutive. The growth of the sprouts the second year varied from three to five feet high. I sold the second year for $20; the third year for $40; the fourth year for $60, which in reality was only about half their value.

The Osier, like all the willows, delights in a moist soil, and they are usually cultivated in such situations, and often form the outside boundary of wet meadows, being planted along the ditches that are made to drain off the surplus waters. Thus they occupy space of little value, but well calculated to make them a great profit, by their abundant shoots. It is a matter of astonishment when such quantities of articles of this description are annually imported, that Americans, proverbial for their industry, zeal, and independent spirit, should have thus long neglected to form plantations fully adequate to meet the demand.

The Osier differs from other willows, in its long, straight, flexible and tough twigs, or sprouts. The species most esteemed by basket makers, is the *Salix Verminalis*, or *European Green Willow*. It is of quick growth, and the shoots grow amazingly long and strong in one year from the shoots, which characteristic renders it very useful for basket making. The leaves are long and narrow, of a bluish green on the upper, and hoary on the under surface. This is the variety I cultivated, and of all others is best calculated for baskets and covering bottles, &c. An acre of this, properly planted upon suitable soil, will yield, at the least calculation, from one and a half to two tons weight to the acre.

Mr. Haynes says, in his communication, that from two acres the net proceeds, after paying all expenses, was $333.75.

The Osier Willow is worthy a place on every farm, because it takes up but little room, and flourishes best on ground too wet for general cultivation; requires very little care after the second year, and furnishes the best materials for baskets, which are indispensible on every farm. It forms a hardy and useful hedge for excluding boisterous winds, and as it flourishes best in moist soils, or wet situations—is frequently planted with a view to prevent banks of rivers and dams from being washed away by the force of the currents.

The art of fabricating baskets from them for farm purposes, is easily acquired by any ordinary hand, and may be practiced in evenings and stormy days in the winter, with little or trifling expense. A well made basket of this willow is actually worth three or four made of ash splints. To give them firmness and durability, a good rim, ribs, and handle of oak, hickory, or other substantial wood, are necessary.

To conclude, I would beg leave to say, I have no cuttings for sale myself, nor am I in any way concerned in the sale of them, but refer to A. L. Jordan, Esq., New-York; John Boveridge, Esq., and Dr. Charles W. Grant, of Newburgh, and Martin J. Blessing, Three Hills Farm, near Albany. *Albany, Jan.* 24, 1853.

A full answer to the inquiries of Mr. WYNKOOP, respecting the culture of the Osier Willow, would require a lengthy article. London's Arboretum gives a very full description of the mode of culture. To answer him briefly, I would say: A wet soil is most suitable, but it must be drained. His overflowed meadow, (I have tried it,) will not answer at all. They must be cut in the fall always, and planted in the months of November, March, or April; 10,000 to 14,000 cuttings plant an acre. The cuttings are one foot long, and merely stuck nine inches in the ground. His Irishman's story is rather tall; my best shoots this year are nine feet. The profits of the culture are very great, the cultivation easy, and the demand increasing. I sold the willow, on one-fourth of an acre, for five years, doing nothing to them, for forty dollars a year, and made a bad bargain. I will be happy to answer any further inquiries from any of your correspondents, and can furnish some cuttings in March, or whenever the snow disappears, at fiv, dollars per thousand. W. H. DENNING. *Fishkill Landing, N. Y., Jan.* 17, 1853.

Pigeon Weed—Draining.

MR. TUCKER—I wrote you some two years ago, that I thought I had made a discovery whereby pigeon weed, or red root, could be exterminated from the earth, viz: by planting corn two seasons in succession on the same field. I have followed up the plan, and find it to answer the purpose effectually. You can tell my brother farmers, that they can get rid of that pest of the wheat grower, by following my plan. If they don't, let us hear of it through your paper; but I know it will answer; yet strange as it may appear, no other two summer crops will kill it all. I have tried both barley and oats twice in succession, but Indian corn and potatoes will; but the latter crop would not answer to cultivate extensively on our stiff soils, but the former will.

A word or two about draining. A year ago last fall, I drained some three acres of wet swale; planted an acre of it with potatoes last May. They were a great crop, and not a potatoe rotted. I was in feeble health when taken up, and was not in the field then, but on observing to one of my men the other day, that from the number of *pits*, they must have been a great crop; he then told me he measured 20 rods, then dug the potatoes and measured, and got 50 bushels, good measure. I have 45 acres of wheat growing on land I drained the last two years. I think it will be a very great crop. If health allow, I will drain 25 acres next spring, which I think will be the last of my draining. I have now all of 25 miles of drains. My son-in-law, Mr. SWAN, who owns 340 acres of the Rose Hill farm adjoining mine, laid last year, (1852) 72,400 tile, making 17 miles of drains, which has already improved the appearance of the land very much. He had laid in 1851, 16,000 tiles, and has now drained about 200 acres of his farm in a thorough manner. Many commenced

draining last year. In fact the whole country ought to be drained. No man can believe how much good it does, unless thoroughly tested. I showed a neighbor the potatoe *pits* on my potatoe patch. He said it was wonderful. He had known the place for 40 years, and it was nothing but a *pond hole* until I drained it. He is now making preparations for draining in spring. Yours truly, JOHN JOHNSTON. *Geneva, N. Y., Jan.*, 1853.

The Way to get a Team for Sub-soiling.

There are scores of farmers, who occupy small farms, who are well satisfied of the great benefits of sub-soiling, but who plead the impracticability of it, because they have not team enough. It is true, sub-soiling may be done by a single team by by shifting plows at each round; but this is rather a slow way of reporting progress. There are but few farmers who feel able to keep more than one team, on a farm of forty or fifty acres—because one span of good horses will be able to do all the work on such a farm, and stand idle nearly one half the time. And if two teams are kept, too much of the profits of the farm will necessarily be consumed in feeding them. But how are we going to manage to plow *deep*, or sub-soil, and make it profitable. By keeping an extra team, the extra profits are nearly or quite used up in maintaining them, and therefore, why is it not just as well to dispense with one team, and be satisfied with plowing as deep as possible with a single team.

If adjoining owners could manage so as to unite their single teams, the difficulty would be obviated; but this is not always practicable—for, when the season of plowing has arrived, each one is anxious to have his plowing done in season, and is seldom willing to leave his ground unprepared for a crop and go and help a neighbor—running the risk of getting the crops in in season, in consequence of too much wet weather.

These are some of the difficulties that I met with when I commenced farming operations. I found it impracticable to *hire* a team, just when my ground was in a suitable condition to plow; and keeping an extra team for plowing only a few acres, appeared to involve too much expense for the revenue of a small farm. In this dilemma I resolved to test the practicability of another expedient. I knew about how much plowing I should have to do in a certain season; and it is easy to estimate the cost of keeping a good yoke of oxen. Accordingly, I purchased a yoke of oxen, and with them and a span of horses, was able to drive a plow as deep as was desirable at present. During the season the oxen helped plow about fourteen acres, for which credit was given; and for their hay, pasture, grain consumed in fattening, interest on the purchase money, from the time they were purchased till sold, a cash charge was made. (The manure offset against the expense of feeding and other care.) They were purchased in May, for $85, an extra price—and sold for beef in the following January, (the price of beef being low,) for $114.10. Upon an estimate, I found that I had received for the corn meal which they consumed, about 75 cents per per bushel, and 38 cents per week, for each, for their pasture, and at the rate of six dollars per ton for their hay, which are very remunerating prices with us.

After they were sold I began to look around for another yoke of cattle. As soon as I found one which suited in every desirable respect, especially in price, they were purchased, and immediately given one or two quarts of grain per day, until such times as was thought best to fit them as soon as possible for the butcher. During the season of plowing they receive extra feeding—and if they are good beef, working moderately half a day at once, will not work off any perceptible amount of fat. By this system of management, I am able to plow with a double team all that is desirable; and when my oxen are not at work, they are improving in flesh—and instead of incurring a bill of useless expense, they are a source of profit.

In this experiment I have availed myself of some facts and suggestions which may be of some practical utility to others who may be similarly situated. And in the first place, beware of purchasing a yoke of old, poor, over-heat, worn-out, badly strained, mammoth skeletons—for *their teeth are poor*, and they cannot masticate their food, and of course, they will not be able to extract the nutriment from the grain which they consume. Another thing, they are generally a disagreeable team, on account of their intolerable slowness. Their inability to endure the heat of an ordinary hot day, in spring or summer, is another valid objection to them; and what is *most* objectionable, they can seldom be made as *fleshy* as younger cattle, although fed with twice the amount of feed. And, if the price of younger cattle be paid for them, my word for it, the purchaser will lose money. Another thing of no little importance is, such old lubber-like fellows are too frequently *unruly*—and *an unruly ox, who can bear!* My aim is, to purchase young, thrifty cattle, of fair proportion; and such cattle, with good treatment, will almost always be ready for the shambles Truly yours, S. EDWARDS TODD. *Lake Ridge, Tompkins co., N. Y.*

Reapers in Scotland—Results of Trials.

The *North British Agriculturist* contains the statements of a large number of farmers in the north, giving the results of their experiments with the new reaping machines, and which contain much information of value; and they are the more interesting, because the experiments were all made by those not accustomed to the use of reaping machines, thus affording a fair test of their general adaptation under the care of workmen of ordinary skill.

The reports are not by any means very flattering, at the same time that the most argue that with some improvement, the reapers will become generally valuable. The kind used was Hussey's, manufactured by Garrett & Sons, and by Crosskill. Most of the reports give the amount reaped, at about one acre per hour, which required very strong teams, or relays of horses every two hours. One had reaped 12 acres in 10 hours; another 20 acres in 20¼ hours; another had cut an acre and a quarter per hour, while another still had succeeded in cutting only about half an acre per hour. This small quantity he ascribed to the awkwardness of the hands employed. Most of the trials speak of the same difficulty which we have observed in this country, namely: the necessity of driving faster than horses can work to advantage,

requiring three horses to endure through the day. Some failures occurred where there was a rank undergrowth of grass, which choked the machine. Surface drains frequently rendered it difficult to cut well. About fifteen hands were commonly required for each machine, including driving, raking, binding, &c. The delivery of the cut grain behind instead of at the side, was regarded by several as a serious defect; one of the farmers who made the experiment, was of the opinion that the same number of binders could do nearly double the work, were they not compelled to spread themselves along each successive swath.

From an average of all the experiments reported, an estimate was made of the comparative cost of reaping with the sickle, cradle, and machine. Allowing for the laborers, horses, and wear and tear of machine, the difference was found to be very small in favor of the latter; the horses were, however, estimated at 10 shillings (about $2.50) per day, at a time when they have no other labor to perform. It ought to be mentioned that the experiments were mostly made on improved farms, where wheat was heavy, or some 30 or 40 bushels per acre. The cost of the reaping machines was about £18 each, or nearly one hundred dollars.

An advantage likely to result from the introduction of perfected reapers, is that the farmer will be enabled to cut larger crops exactly at the time he wishes, an advantage evidently of considerable importance, since the fact has been so well ascertained, that the quantity and quality of the crop is improved by cutting some ten days before wheat is dead ripe.

Harvesting Corn.

Much has been written, and more said, upon the different modes of harvesting corn; and while each method has its strenuous advocates, neither, perhaps, has been sufficiently tested by accurate weight and measure, to satisfy many who are desirous of practicing the best way.

I have been in the habit for ten years, of cutting up and stooking a part of my corn, and top-dressing the rest. In a few instances have left some to ripen unmolested. My preference has been for topping—not because it was the way of the fathers, nor from any proof by weight or measure—for I never resorted to either, being satisfied with the general appearance of the topped grain, as it was brighter, firmer on the cob, riper, and in better condition to store away in the granary, than the rest.

Circumstances may render it necessary and advisable to secure the crop by cutting up and stooking. Seasons and localities should be regarded with particular attention by all tillers of the soil. Advantage may be gained by cutting in low situations, where there is danger of early frost; or if the farmer wishes to sow his field to winter grain, he can remove his corn in better season to sow his seed. But in favorable situations, simply to gather his corn crop, and save his fodder by cutting it up by the roots, when it is green and full of the juices, thus depriving it of the nourishment it would draw from the earth, does not appear to me to be the wisest and best course, or one in accordance with nature's laws.

I know it is claimed by the advocates of cutting up, that the juices of the stalks thus severed from their roots, continue to flow to the grain, as well or better than they do in the case of that which is topped. Now is this true? Does any one really believe, that in a plant like Indian corn, with deep expansive roots, there is a healthful flow of the juices enough to form and mature grain after being deprived of its nourishment? As well may they say the blood circulates freely in the amputated arm. In regard to corn that is topped, there is no injury to that part of the plant on which the grain is formed; no severing of the main arteries, or taking the life of the plant; but it continues to draw its proper nourishment from the earth until it matures.

In my view, we have more reason to believe that in removing the top stalks, we take away an exuberance, which in effect causes a greater flow of the juices to the grain, than that there is a healthful flow of the juices in that which is cut up. For the top having become first mature, commences decaying, and there is a continual drain to strengthen that decaying part—whereas, if the top is removed, all the nourishment still continues to flow freely to the grain.

It is gratifying to observe that a desire for information and investigation in this matter, is being elicited. And it is to be desired, that the call for experiments, in the July No. of the Cultivator, by H. W., of Ira, N. Y., may meet with a full and hearty response from farmers in all parts of the country—and compare notes, not of guess-work, but actual weight and measure—and that from time to time, until each experimenter is satisfied that the grain is thoroughly dried.

Well, Mr. Editor, I set down to give the result of an experiment made by myself, and it is hoped that what I have written will not lead any to think that my mind is too much biased to give each a fair trial. My desire is for facts—for correct information in the premises.

During the month of September, when my corn was in proper condition to top, (that is glazed, and the tassel becomes dry and beginning to curl,) I commenced topping my corn. On the 17th day I selected three successive rows, near the middle of my field, and counted off 20 hills in each, for experiment. The rows and hills were as near an equality as could be in appearance. The first row of 20 hills I cut and put in one stock; the second topped; the third left unmolested. All stood in the field until Oct. 27th, when each parcel was harvested and weighed. I would here say that the weather was quite favorable for either method, warm and dry.

20 hills, cut up Sept. 17, harvested and weighed Oct. 27; weight of ears, 29 lbs. 13 oz.

20 hills, topped Sept. 27, harvested and weighed Oct. 27; weight of ears, 34 lbs. 9 oz.

20 hills, untopped, harvested and weighed Oct. 27; weight of ears, 34 lbs. 15.

Each parcel kept in a warm room one month, then again weighed.

Nov. 27, 20 hills cut up; 94 ears; weight 25 lbs. 8 oz.; shrinkage, 4 lbs. 5 oz.; per cent shrinkage, 14.48.

Nov. 27, 20 hills topped; 98 ears; weight 29 lbs. 12 oz.; shrinkage, 4 lbs. 13 oz.; per cent shrinkage, 13.92.

Nov. 27, 20 hills untopped; 100 ears; weight 29 lbs. 8 oz.; shrinkage 5 lbs. 7 oz.; per ct. shrinkage, 15.74.

Each lot shelled, weighed, and measured Nov. 29, resulting as follows:

Cut up, measured 11 qts. 1 pt.; weight 21 lbs. 2 oz.; weight of one peck, 14 lbs. 8 oz.

Portable Forge.

Geddes Harrow.

Topped, measured 14 qts.; weight 25 lbs.; weight of one peck, 14 lbs. 6 oz.

Untopped, measured 13 qts. 1 1-2 pt.; weight 24 lbs. 8 oz.; weight of one peck, 14 lbs. 8 oz.

Still kept in a warm room until Dec. 13th, when it appeared to be perfectly dry; each parcel was again weighed and measured:

Cut up, measured 10 qts. 1 1-2 pt.; shrinkage 1 1-2 pt.; weight, 20 lbs. 10 oz.; per cent shrinkage, 2.37

Topped, measured 12 qts. 1 1-2 pt.; shrinkage 2 1-2 pt.; weight, 24 lbs. 2 oz.; per cent shrinkage, 3.50.

Untopped, measured 12 qts. 1 pt.; shrinkage 2 1-2 pt; weight, 23 lbs. 4 oz.; per cent shrinkage, 5.10.

I exhibited the fodder to a number of good judges, and each that expressed an opinion, decided in favor of the topped; also the same gentlemen examined the corn, the day after it was harvested, and all gave their preference in favor of the general appearance of the corn that was topped. SAMUEL F. WEST. *Columbia, Conn., Dec.* 18, 1852.

Portable Forge.

Among the many articles which were exhibited in "Mechanics' Hall," at the State Fair at Utica, we were particularly pleased with HYDE'S PORTABLE FORGE, exhibited by L. POTTER & Co., of Troy, and represented by the above figures. The bellows, in a very compact form, occupies the space underneath the fire, from which the curretn of wind is driven upward through an improved graduated Twier Iron, the slide damper of which regulates with great ease and precision, the amount of the blast. The folding doors, which are made to surround the fire whenever needed to protect it from wind or rain out of doors, or for safety within doors, are of very ingenious and neat construction, and are quickly applied. On a large farm, remote from a smith shop, such an article would often be of great convenience. We think it world also form an admirable furnace for a chemical laboratory.

We observe that the graduating twier iron is highly commended by Eaton, Gilbert & Co., the celebrated rail car makers—as well as by several other persons.

Improvement of the Geddes Harrow.

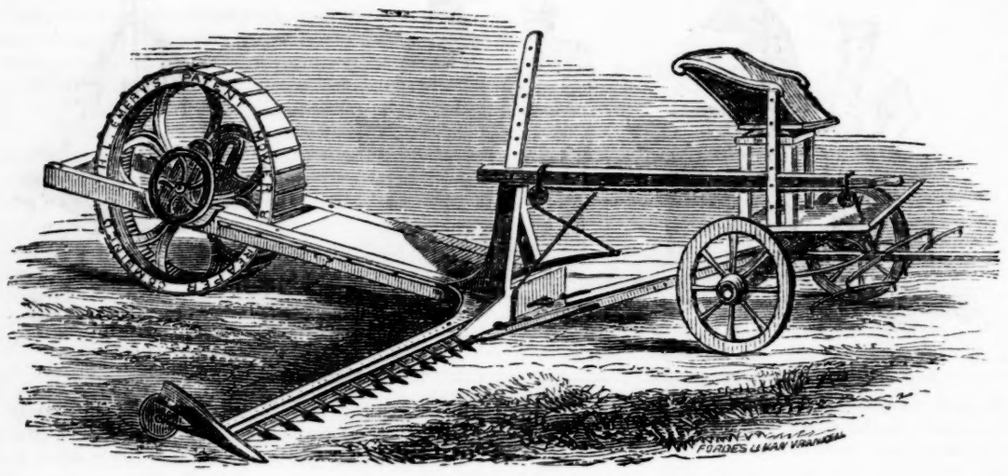
I have made an improvement (in the manner of drawing) the Geddes Harrow, which makes it a most valuable implement for the farm—whereas, by the mode in which all I have seen, are drawn by the center rod, it is very much injured in its usefulness. I introduced the implement into the county, having one made immediately after I saw the figure and statement in the Transactions of the State Agricultural Society. It was made as near like the figure and description as could be, at about double the cost of an ordinary harrow. You may judge how I felt when I found, after all that had been said in its favor, it was so defective when drawn by the center rod. I found that when so drawn, the center raised, and the outsides ran in too deep, and there was no play in its action—no accommodating itself to the inequalities of the ground, but one uniform action. The center raised so high that the central teeth scarcely touched, the outsides at the same time clogging.

After due examination I concluded to divide the weight, as nearly as might be, into three parts, and make two points of draft, leaving one-third the weight between these points. By so doing, I at once had a perfect implement, from that which before was quite deficient. As it now is regulated, I believe it will do more execution going twice over the land, than any other harrow I know of, will in three times.

The cut represents the chain and mode of attachment to the harrow. It is done by taking a piece of chain, (having a ring exactly in the center,) and long enough when secured to the out side beams, to pass over the front of the harrow for convenience in handling. A screw bolt with an eye in it is secured to the last link of the chain at each end and passed through each outside beam and secured. It is but little trouble and expense, and will effect much good. Try it, you that have that kind of Harrow. HARMON B. CROPSY. *Richmond, Staten Island, Jan.* 23, 1853.

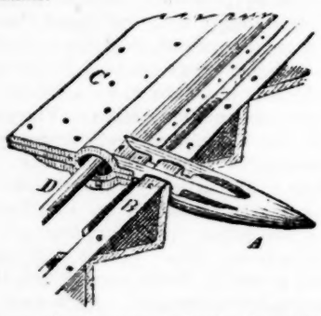
Emery's Mowing Machine.

The above cut illustrates the Emery Mowing machine—showing it as used with the wheels detached. Where grass is light, so as not to produce an excessive side draft, and fields small, so as to require a smaller machine, the wheels may be dispensed with, and a tongue substituted, thereby attaching the horses close up to the machine itself. This illustration of the Mower, together with the numereus illustrations of the same with attachments, &c., making it a reaper, and which



EMERY'S MOWER.

were published in a former number, gives a very full description of its general features and "modus operandi."



Below we give a more minute description of the cutters themselves—it being a transverse section of the compound wrought iron cutter beam, with section of cutter bar, cutters and dividers, and the relative position, size, &c., &c.

B—represents the cutter bar, to which the steel blades are attached on its under side; the bevel of the blades being upon their upper side and sickel edge. These blades also extend back of the cutter bar, with cutting angle and edges, same as before it, but not terminating in a point. This rear projection serves to cut and clean the "clog" or fibre, which may possibly escape the forward cut, and be drawn into the dividers.

D—represents a section of the crank axle which extends through the hollow beam, and supports its outer end.

C—represents the double plate hollow beam with attachments.

A—represents the divider with openings and guides, through which the cutters pass. This divider is made very true, and with sharp corners, over which the cutters pass, forming a perfect shears cutting action.

These dividers are wider than most others, leaving a space of about two inches between them, thus better protecting the cutters from injury from stones, also compressing the grass or grain into a more dense body, and better condition for the action of the cutters.

"We learn by suffering," says the poet, "what we teach in song."

The Culture of the Hop.—No. 2.

In my communication on the culture of hops, I should have said that about six hills of male hops, equally distributed, ought to be planted to each acre. The reason for this is, I trust, obvious to every one.

HOP PICKING.—I come now to give you the mode of hop harvesting, as practiced here in Otsego. Hops are not considered ripe or fit to pick, until the seeds turn brown a little and become hard, or in other words, get quite out of the milky state. The flour or tallow of the hop, must also possess that peculiarly bright and sparkling gold color, which is always seen in good hops. As in this flour consists all, or nearly all, the virtue of the hop, it may readily be seen that it is important that it is well matured, (and this is easily ascertained by sight and feeling) as it cannot be improved in any respect after picking.

The time at which hops are fully matured and ready for picking, varies of course with the season. But generally, I think it would be about the middle of September. It is a common practice here, however, to begin on the first week in September, as those having large yards, would not otherwise get through until frosts would injure the crop, and cold and bad weather would retard picking. The time having arrived, and all hands being engaged for weeks or perhaps a year before, a merry time to all but the poor hop-grower and his family, now begins. One might suppose it would be difficult to obtain the necessary help at all times, and especially as all want it at the same time, in districts where so many hops are grown as in many parts of Otsego. But there is no lack of assistance in hop time, (as it is familiarly called.) I have often heard the remark, and experienced the truth of it myself, that forty girls could more easily be obtained to work in the yard, than one in the kitchen, or to nurse a poor sick woman. I will here remark, that our hops are all picked by females, many of whom spend weeks in preparatory making dresses, sacks, bonnets, gloves, &c., thinking nothing of time thus spent, if they can only have a good time in picking.

Our way of picking is in boxes; each box usually contains about forty cubic bushels. They are

always divided into halves and should invariably be subdivided into quarters, and this is the case where picking is done by the box or bushel. Then the amount picked, and the condition of the hops of each will show for themselves. One man and four girls, are a complete force for a box. The man, or tender as he is called, cuts the vines at the hill, takes up the pole, and places it on the *lug* with one end resting on the ground. The lug is a pole running lengthwise of the box, elevated about two and a half feet above it, and supported by uprights nailed at each end of the box. It is the business of the tender to keep his girls well supplied with hops; to see in general that each and all do their duty, and that his hops are kept clean and free from leaves and stems; to clear his poles from vines, and stack both poles and vines in a neat and workmanlike manner.

Girls pick by the week, box or bushel. The latter, (after trying both,) presents itself to me as altogether preferable. Then we pay those who earn their money, and those who do not surely ought not to have it. I have known girls paid by the week, and all the same price, while A. would accomplish double or tripple that of B. This is too unequal A smart girl will pick two quarter boxes, or twenty bushels per day, and even more, and at two cents per bushel, (the price usually paid) good wages can be made. Though many, in picking by the week, would not get more than one-fourth the above quantity. I am told they do not pay quite as high as this in Sangersfield, Madison, &c.

Once a day at least, or as often as the boxes are filled, they are emptied into large bags to be conveyed to the kiln for drying. In very warm weather, care should be taken that the hops do not settle or pack in the box, as they will soon heat and are liable to become injured. But when they are picked by the box, the tender is relieved from all responsibility of this kind, as the girls seem to understand the stirring up process, not allowing their hops to settle enough to heat.

I reserve for another article, some remarks on the most important part of this business—that of drying. AN OTSEGO HOP-GROWER.

On the Culture of Indian Corn.

As a great part of my life has been spent in agricultural, horticultural and botanical pursuits, I hope I shall pe able to make some suggestions of value to American farmers, and to assist them in reforming some of the erroneous practices, which retard the progress of the profession.

I saw the Indian corn growing for the first time in this country in 1851 and '52, and immediately came to the conclusion that the present system of cultivating it ought to be abandoned. Upon analysing it botanically, I find that it bears staminate and pistillate flowers on the same plant; such plants belong to the 19th class *monœcia*. All farmers ought to know that the staminate flowers are the male, and grow on the top or panicle of the stalk, and that the pistillate flowers are the female, and grow on a cob, and form what is termed the silk. The male flowers contain a colored powder called pollen, and when it is ripe the anthers which enclose it burst, and the pollen falls on the female pistils, or silk, and its influence is transmitted along the silk to the cob, where the seed is to grow. But when the pollen falls, some goes off with the wind, some is lost on the ground, and some goes to fertilize the pistillates of other plants; so that if white and yellow corn are growing in the same field, both kinds will often appear on the same cob.

It is evident that a full supply of pollen, and a long cob, are requsite to a fine crop; and to secure this, I would advise farmers not to check the growth of the plant by cutting off its roots with plows and cultivators. When the plant is six inches or two feet high, it has roots of the same length, and by passing a plow between the rows, you are sure to injure the roots, and thus retard the growth of the stalk and the cob, and injure the pollen. The most obvious use of the root is to fix the plant in the soil, and maintain it in its proper position; but the most important use of it is that of absorbing from the soil that moisture and food, which the development of the plant actually requires; but the plowing interferes with both these functions. It is the spongelets at the ends of the fibrils, that bring in the nourishment, which is conveyed by the tissues of the fibrils to the main root, and then distributed to all parts of the plant. These delicate roots are spread over the entire surface of the ground at no great depth; so that when you stir the ground to such a depth as a cultivator must necessarily do, you deprive the plant of its food, and check its growth.

My mode of growing corn is to spread manure broadcast; then plow the ground as deep as possible, and plant the seed, taking care not to cover it too deep. The weeds must be kept down with a hoe, when they are young, and if the soil is in good condition, that is, well plowed, well manured, and well drained, the crop will be a good one. I have seen good land which was entirely useless, because it was not drained, on farms where stone is abundant, and if such farmers would build drains instead of plowing up their corn, they would labor to more advantage.

One acre of corn, cultivated in the following manner, came under my observation: The ground was plowed as deep as a team of oxen could do it, and thoroughly harrowed. The seed, which had been steeped in tobacco water, was then sowed in drills, and covered not more than an inch deep. The weeds were kept down with a hoe, and though the land had not been manured for years, and had never grown a good crop before, it produced 70 bushels of shelled corn, worth 75 cents a bushel, and 450 bunches of stalks, worth 4½ cents a bunch. There was very little hog corn. The cobs were from 9 to 13 inches in length, from 8 to 12 rows of corn on the cob, and from 50 to 70 kernels in a row. Had the corn been cultivated with a plow, the product would have been much less. JOHN MOORE. *Poughkeepsie, N. Y.*

MILKING IN WINTER.—Fresh cows come in towards the close of winter, and the teats often become badly cracked by exposure to the cold winds. This effect is increased by the contraction and drying of the varnish formed by the saliva of the calf. To prevent this difficulty, always wash the teats, before milking, with the hand, and after the sucking of the calf. It will dry during milking, and leave the udder clean and soft. Cold water is much better than milk, which acts not unlike the calf's saliva. If the soreness is considerable, apply fresh unsalted butter.

Agricultural Societies.

UNITED STATES AG. SOCIETY.—The First Annual Meeting of this Society was held at Washington City on the 2d and 3d of February—Hon. M. P. WILDER, President, in the Chair, and W. S. KING, Secretary. About 100 members were present, representing 19 States.

The President, in his address, states that an extensive correspondence has been opened with distinguished agriculturists and local associations, and suggests that a committee of the Society confer with the general government with reference to securing the co-operation of its functionaries in procuring information, and in the transfer of seeds and specimen products. He urges a closer alliance with kindred associations in all parts of the Union, and the importance of obtaining full reports of their transactions—also some alliance with the American Pomological Society. He enumerates the facilities for usefulness which the location of the Society affords; speaks of the need of some buildings, and more means for the accommodation and support of the organization, and suggests that the patronage of the government would be desirable, and that the officers of the Society might perform the duties of the Agricultural Department of the Patent Office. He advocates the full representation of our agricultural products at the World s Fair at New-York, under the direction of the Society. After alluding to some imperfections in the constitution of the body, the immense agricultural resources of our country, and the zeal which is being manifested in their development; the death of the "Farmers of Ashland and Marshfield," and that of the lamented DOWNING and NORTON, in an eloquent strain, he closed his address with an entreaty to vigorous a d harmonious action, for promoting the purposes of the Society, and rendering our nation "the most intelligent, enterprising, virtuous, happy, and powerful people on earth."

The Society convened on the morning of the 3d, when the various Committees made their reports. The Constitution was so amended as to change the time of holding the annual meeting to the *last* Wednesday of Feb.

The following were elected honorary members: President FILLMORE, General PIERCE, SAMUEL APPLETON, THOMAS H. PERKINS, ROBERT G. SHAW, EDMUND RUFFIN.

The special order, a resolution to memoralize Congress to establish a Department of Agriculture, was taken up. Mr. CALVERT supported it. It was due that this great interest embracing four-fifths of our population should be represented in the Cabinet councils. Messrs. FRENCH and MAPES briefly advocated the resolution, when it was adopted unanimously.

President FILLMORE and Secretary STUART now entered, and were received with marked attention, the members rising.

The Society then proceeded to ballot for officers, and the following were elected:

President—MARSHALL P. WILDER.

Vice-Presidents.

Ezekiel Holmes,	Maine.	Samuel Medary,	Ohio.
George W. Nesmith,	N. H.	Robert Mallory,	Ky.
Frederick Holbrook,	Vt.	Meredith P. Gentry,	Tenn.
B. V. French,	Mass.	Joseph A. Wright ,	Ind.
Josiah Chapin,	R. I.	Stephen A. Douglas,	Ill.
S. D. Hubbard,	Conn.	R. Atchison,	Mo.
Henry Wager,	N. Y.	T. B. Flourney,	Ark.
James J. Mapes,	N. J.	J. C. Holmes,	Mich.
Frederick Watts,	Penn.	Simmons Baker,	Fla.
C. P. Holcomb,	Del.	Thomas J. Rusk,	Texas.
W. D. Bowie,	Md.	M. F. Colbaugh,	Iowa.
G. W. P. Custis,	Va.	A. C. Ingham,	Wis.
H. K. Burgwin,	N. C.	M. Horner,	Cal.
John Witherspoon,	S. C.	Joseph H. Bradley,	D. C.
P. M. Nightingale,	Ga.	J. M. Baird,	New Mexico.
Richard Jones,	Ala.	H. H. Sibley,	Minnesota.
A. H. Begnes,	Miss.	Joseph Lane,	Oregon.
A. B. Romar,	La.	Joseph S. Noyes,	Utah.

Executive Committee.—C. B. Calvert, John A. King, J. D. Weston, Moses Newell, Arthur Watts, Richard Peters. *Cor. Secretary*—J. C. G. Kennedy. *Rec. Secretary*—W. S. King. *Treasurer*—William Selden.

The Treasurer reported the funds of the Society had been augmented nearly $2,000 since his arrival yesterday. Dr. ELWYN presented a paper written by Prof. BOOTH, of Philadelphia, arguing that the analysis of *soils*, in the present state of chemistry, is of no immediate practical value to the farmer. Prof. MAPES said he stood ready to refute every position assumed in the paper, and stated interesting facts against it. After an animated discussion, the paper was withdrawn.

On motion of Mr. POORE, circulars were directed to be addressed to home and foreign agricultural societies, proposing the interchange of publications.

Annual Meeting of the N. Y. S. Ag. Society.

The Society convened in the Assembly Chamber, on Wednesday the 10th of Feb., at 12 o clock, and was called to order by the Secretary, B. P. JOHNSON, on whose motion Ex-President BEEKMAN was called to the chair,—the President, Mr. WAGER, being necessarily absent on a visit to the South, for the benefit of his health.

After an opportunity had been afforded to those who desired it, to become members of the Society, the Secretary read the annual report of the Executive Committee, which was of great interest, and presented the condition of the Society in a high position of influence and efficiency.

The report of the Treasurer, LUTHER TUCKER, showed the condition of the funds of the Society to be as follows:

Balance in treasury, Jan., 1852,		$4,514 14
Receipts from annual members,		157 00
" from six life members,		60 00
" at winter exhibition,		38 75
" from State Treasury,		700 60
" At State Fair,		8,115 41
" interest on funds invested,		412 06
" from temporary loans,		1,969 83
" Mohawk bonds redeemed,		3,000 00
Amount due Treasurer,		75 71
		$19,072 90
Paid Premiums,	$6,351 26	
Expenses of State Fair at Utica,	2,014 91	
County Surveys,	439 00	
Trial of Implements at Geneva,	733 08	
Library and Museum,	461 13	
Postage, &c.,	219 10	
Incidental expenses,	318 49	
Miscellaneous,	675 48	
Salaries and traveling expenses,	2,640 93	
Printing, &c.,	234 35	
Rochester Fair, 1851,	877 67	
Winter meeting 1852,	104 50	
Loan account,	4,000 00	
		$19,072 90

Mr. WHITE of Monroe, moved the usual committee of three from each judicial district, to nominate officers, and to recommend a suitable place for holding the next State Fair. On motion of Mr. ALLEN of Erie, after considerable discussion, the resolution of Mr. WHITE was so amended as to confine the duties of the committee to the nomination of officers.

At the evening session, Dr. BEEKMAN not being present, JAMES MONROE, Vice-President, of the first district, was called to the chair. The committee on nominations reported the following list of officers for 1853, who were unanimously elected:

President—LEWIS G. MORRIS, Westchester.

VICE PRESIDENTS

1. RICHARD L. ALLEN, New-York.
2. WILLIAM KELLY, Dutchess.
3. GEORGE VAIL, Troy.
4. JOHN B. FINLAY, Saratoga.
5. GEORGE GEDDES, Onondaga.
6. R. H. VAN RENSSELAER, Otsego.
7. JOEL W. BACON, Seneca.
8. SILAS M. BURROUGHS, Orleans.

Additional Members of Executive Committee—THEODORE C. PETERS, Genesee; J. T. BLANCHARD, Saratoga; WM. BUEL, Monroe; CHAS. MORRILL, Tompkins, and JOHN A. SHERMAN, Jefferson.

B. P. JOHNSON, Albany, Cor. Secretary.

ERASTUS CORNING, Jr., Albany, Rec. Secretary.
B. B. KIRTLAND, Albany, Treasurer.

Mr. COREY of Saratoga, then introduced a resolution, that the Executive Committee be instructed to hold the next State Fair at Saratoga Springs. This led to a long discussion—some contending that the duty of selecting the place for holding the Fair should be left, where the constitution places it, in the hands of the Executive Committee—others that the course pursued for some years past, of having the nominating committee recommend the place, should be adopted. After much talk, and without taking any direct vote, either on the resolution of Mr. Corey, or on the motions made to refer the whole matter to the Executive Committee, it was disposed of by being referred to the nominating committee, who, after consultation, reported in favor of SARATOGA SPRINGS, which report was accepted without opposition.

On motion of Mr. GEDDES, of Onondaga, the constitution of the Society was so amended as to require that in future, one year's notice should be given of all proposed amendments to the Constitution, before they are acted on.

Mr. WHITE of Monroe, gave notice of an amendment to the Constitution, proposing an entire new organization of the Society, or rather changing it from a voluntary Society to a close board of agriculture—a change which would require not only a new Constitution, but the annulling of the present Society, and a new act of incorporation.

Thursday, Feb. 10.—The Society convened at their rooms in the old State Hall, ex-President BEEKMAN, in the chair. On motion of Mr. COMSTOCK of Oneida, a committee of one from each Judicial District was appointed to report at the next annual meeting, upon the propriety of providing more permanent fixtures and more perfect arrangements for the annual fairs, than can be provided for a single exhibition without a great sacrifice of time and money.

On motion of Mr. BARBER of Cortland, the following resolution was adopted:

Resolved, That it shall be the duty of Vice Presidents of the State Society, to attend the County Cattle Shows and Fairs in the district in which they are located, and in case they cannot attend, that they procure a substitute, and make a report to the Executive Committee.

Thursday Evening—The Society convened at the Assembly chamber at 7 o'clock, when the President elect, LEWIS G. MORRIS, was introduced to the Society by Dr. BEEKMAN, and after a brief address, returning thanks to the Society for the honor conferred upon him, took the chair.

The Secretary read the reports of the several committees appointed to award premiums; after which an address from Ex-President WAGER was read by Mr. Corey of Saratoga.

At the request of the Society, Mr. JOHN A. KING of Queens, made a report of the proceedings of the United States Agricultural Society, at Washington.

On motion of Mr. SHERMAN of Jefferson, a committee, consisting of Messrs. Sherman, Beekman and Prentice, was appointed to prepare resolutions expressing the wishes of the State Society in favor of an Agricultural School.

After the adoption of resolutions returning the thanks of the Society to the Asssembly for the use of the Assembly Chamber; to the officers of the Society for the past year, for the faithful performance of their duties; and to Mr. Johnson, for his efficient services in the discharge of his duties as agent of the State of New-York to the World's Fair, the Society adjourned.

Executive Committee Meeting, Feb. 11.

The Executive Committee met at their rooms on Friday morning, L. G. MORRIS, Esq., President, in the chair, when a resolution was adopted, that the next State Fair be held at *Saratoga Springs*, on condition that the citizens of that place comply with the conditions last year required of the citizens of Utica.

Another, and an important measure, was adopted—that hereafter the badges of membership, admitting members and their families to the show-grounds, should be dispensed with, and that a uniform charge of twenty-five cents for admission to the show-grounds should be adopted; each member to be entitled to four tickets for the dollar paid for his membership.

Some such course had become absolutely necessary to prevent the gross abuses occasioned by the use of badges, for it is well known by those engaged in the management of the fairs, that very many of the badges are used to admit an indefinite number of families. At the last fair at Utica, quite a number of arrests were made of persons known to be engaged in this abuse. Some one would buy a badge and give it to a carriage load to go in on, when it would be passed through the fence to the man on the outside, and thus the same badge would be used time and again.

Winter Exhibition.

The exhibition of animals was held at WOOLFORD'S, on Washington street, and of fruits and vegetables at the Agricultural Rooms, on State street.

The "Cattle Show" presented some very interesting and excellent animals. Several yoke of very large fat oxen attracted much attention. Our readers may form a conception of their size, when we state, that although striking for their bulky proportions and massive flesh, a six foot man could not look over their backs on a level. Among the chief exhibitors of these colossal animals, were Sprague, Gilbert & Co., of Genesee co., and —— Stoddard, of Amherst, Erie co. Four oxen, belonging to the latter, weighed, in the aggregate, about 9,500 lbs. A beautiful fat Hereford heifer, five years old, weighing 2,300 lbs., was exhibited by E. Corning, Jr. A pair of steers belonging to A. Rose, of Preston, Chenango co., weighed 5,500 lbs.

Excellent specimens of long-wool sheep, and a few good South Downs, were presented by several contributors, among which we observed especially the animals brought by Hungerford & Brodie, of Jefferson co., D. S. Baker, from West Bloomfield, Ontario co., and by —— Felt, from Earlville, Madison co.

Among the swine were some beautiful young animals of the Suffolk and Essex breeds, from Lewis G. Morris, of Fordham, N. Y.

The show of poultry was one of unusual excellence, and was distinguished not only for its extent and variety, but for the high merit of most of the birds exhibited. Among them we observed some twenty different varieties, of every size, character, and color, from the little pugnacious, screaming Bantams, to the quiet and dignified Malays, Shanghaes and Chittagongs, and embracing the several sorts of white and variegated Polands, Dorkings, and others of middle stature.

There was a fine exhibition of winter fruits at the Agricultural Rooms. The most valuable, rare, and attractive collection was Ellwanger & Barry's winter pears, comprising 40 varieties. No collection approaching this, has ever, at any previous season, been exhibited in the State, and probably not in America. Among them, the *Doyenne Gris de Hiver* gives high promise of value; and *Doyenne de Hiver d'Alencon*, or *Nouveau*, and *Prince s St. Germain*, were of a high character. There were several other sorts, of fine appearance, not yet fully matured. None, however, came up in *high flavor* to the *Winter Nelis*, which in this particular stands without a compeer, although inferior to several others in size, beauty, and productiveness. We observed some good specimens of that fine sort, the *Inconnue Van Mons*, from J. S. Gould of Albany.

The exhibition of apples was fine and extensive, consisting almost wholly of a number of collections from Rochester and its vicinity. Among these were six sorts from T. G. Yeomans of Walworth, and twenty-eight (includlng some new and rare sorts) form J. J. Thomas, of Macedon, both of Wayne county; thirty-eight from Ellwanger & Barry, twenty-six from N. & E. S. Hayward, twenty-four from A. Frost & Co., five from Judge

Buel, five from J. H. Watts, all of Rochester; eleven from F. W. Lay, and twenty from Robert Brown, of Greece, Monroe co.; twenty from Hart Massey, of Watertown, Jefferson co.; nine from C. Goodrich, of Burlington, Vt.; besides several from Wilson & Co., of Albany, and from P. Barber, R. C. Owen, and W. King, of Homer, Cortland co. The large size and fine appearance of many of the specimens excited much admiration, and showed very conclusively that the art of cultivation has lost nothing with the increase in the extent of fruit culture.

VIRGINIA.—The annual meeting of the Virginia State Ag. Society, was held at Richmond, on the 11th Dec., at which a permanent constitution was adopted, and the following officers elected:

President—PHILIP ST. GEORGE COCKE.

Vice-Presidents—Edmund Ruffin, Willoughby Newton, Lewis E. Harvie, S. T. Stuart, Thomas L. Preston, Gen. S. H. Lewis.

Executive Committee—Wm. Boulware, E. G. Booth, W. G. Overton, William H. Richardson, Richard Irby.

Rec. Sec.—C. B. Williams.

Cor. Sec.—Frank. G. Ruffin.

Treasurer—Bernard Peyton.

DELAWARE COUNTY.—Officers of the Delaware Co. Agricultural Society, for 1853:

SAMUEL A. LAW, Meredith, *President.*

Martin Keeler, Jr., Kortright; Geo. D. Wheeler, Deposit; Hiram Olmstead, Walton; Henry Dewie, Andes; Silas White, Franklin; N. M. Blish, Stamford; and Alex. Mable, Delhi, *Vice-Presidents.*

Alfred Redfield, Delhi, *Secretary.*

M. L. Farrington, Delhi, *Treasurer.*

The past year has been one of unexampled prosperity to the Society, as well as to the farmers of the county. The last annual fair was held at Delhi in the early part of October, and called out a larger concourse of people than ever assembled on any previous occasion in the county. The premium list was larger and more varied than any previous one, and for most of them there was a spirited competition. An address from S. A. Law, then as now, President of the Society, was listened to with interest.

The Society commences the present year with a large balance in its treasury, and with flattering prospects.

ESSEX COUNTY.—Officers of the society for the ensuing year:

President—WINSLOW C. WATSON, Port Kent.

Vice-Presidents—David Judd, Elizabethtown; Harry Glidden, Elizabethtown; Norman Page, Chesterfield; Chilion A. Trimble, Crown Point; William S. Flack, Essex; Monroe Hall, Jay; Phineas Norton, Keene; Brewster M. Hodskins, Lewis; Absalom P. Morse, Minerva; George W. Goff, Moriah; Alexander Ralph, Newcomb; Daniel Ames, North Elba; Jacob, Parmerter, North Hudson; James H. Pierce, St. Armand; Erastus B. Potter, Schroon; Thomas Delano, Ticonderoga; Samuel Root, Westport; Paul B. Boynton, Willsborough; Artemas Beach, Wilmington.

Secretary—George S. Nicholson, Elizabethtown.

Treasurer—Levi D. Drown, Elizabethtown.

JEFFERSON COUNTY.—At the late annual meeting, the following officers were elected for 1853:

JOHN WINSLOW, of Watertown, *President;* Hiram Dewey, of Orleans; William Sill, of Rodman; John C. Cooper, of Adams; Benjamin Maxon, of Houndsfield; John Bradley, of Brownville; Stephen Johnson, of Clayton; Phineas Hardy, of Leray; Alexander Parker, of Watertown; Aaron Shew, of Pamelia; Asahel W. Danforth, of Philadelphia, *Vice Presidents.*

Executive Committee—John A. Sherman, Moses Eames, M. R. Patrick, Alfred Fox, S. D. Hungerford, James Brodie, Howell Cooper, Curtis Goulding, Jr., Asa B. Carter.

Treasurer—Talleott H. Camp; *Rec. Sec.*—Hiram Holcomb.

ONEIDA COUNTY.—Annual meeting at Hampton, Jan. 6, when the following officers were chosen:

President—ROLAND S. DOTY, Rome.

Vice Presidents—Geo. Bristol, Kirkland; Thos. R. Walker, Utica.

Executive Committee—John Thompson, Augusta; Thos. D. Penfield, Camden; Daniel G. Drummond, Lee; H. N. Carey, Marey; Henry Rhodes, Trenton; J. W. Jones, Utica; George Benedict, Verona; Jairus Knapp, Westmoreland; James H. Sherrill, New Hartford. *Treasurer*—Henry R. Hart, Whitestown; *Secretary*—Levi T. Marshall, Vernon.

QUEENS COUNTY.—The following officers have been elected for the ensuing year:

President—JOHN A. KING, Jamaica.

Vice-Presidents—David W. Jones, Oyster Bay; William L. Laing, Hempstead; Robert M. Bell, Flushing; Joseph Tompkins, Newtown; George H. Horsefield, North Hempstead; Benjamin I. Doughty, Jamaica.

Managers—Timothy Carman, Oysterbay; Micajah M. Pettit, Hempstead; Edward A. Lawrence, Flushing; George Hulst, Newtown; William J. Mott, North Hempstead; Bernardus Hendrickson, Jamaica.

Cor. Sec. and Treasurer—John Harold, Hempstead.

Rec. Sec.—Lendal F. Pratt, Flushing.

SULLIVAN COUNTY.—The officers for the present year, are—LOTAN SMITH, President; one Vice President from each town; Richard Oakley, Trea.; James L. Stewart, Rec. Sec.; and James E. Quinland, Cor. Sec.

SARATOGA COUNTY, N. Y.—The following are the officers for 1853:

President, SILAS G. SMITH, Stillwater.

Vice Presidents, Samuel G. Eddy, Stillwater; Jesse L. Mead, Galway.

Cor. Sec'y, Cramer Vernam, Mechaniesville.

Rec. Sec'y, John A. Corey, Saratoga Springs.

Treasurer, Reuben S. Burtis, Mechaniesville.

WYOMING COUNTY, N. Y.—Officers for 1853:

President, NEWBURY BRONSON, Warsaw.

Rec. Sec'y, H. L. Comstock.

Cor. Sec'y, Wm. Bristol, Jr.

And a Vice President for each town, and a town vigilance committee.

WASHINGTON COUNTY, N. Y.—At the recent annual meeting, MILO INGALSBE, of South Hartford, was elected President; Dr. James Savage, Argyle; Maj. Wm. Baker, Fort Ann; Dr. John E. Newcomb, Whitehall; Arch. Bishop, Granville; Peter Hill, Coila; Wm. Forbes, Fort Edward, Vice Presidents; Le Roy Mowry, Greenwich, Rec. Sec'y; and J. S. McDonald, Salem, Assistant; Rev. E. H. Newton, Cambridge, Cor. Sec'y; Ahira Eldridge, White Creek, Treas.

WINDSOR COUNTY, VT.—At the annual meeting, on the 10th of Jan., the following officers were elected:

President, BARNABAS DEANE, of Weathersfield.

Vice Presidents, Hampden Cutts, of Hartland; Chipman Swain, of Windsor.

Seretary, Lorenzo Kent, of Woodstock.

Traasurer, Charles Marsh, of Woodstock.

FRANKLIN COUNTY, VT.—Annual meeting at St. Albans, Jan. 14, when HARMON NORTHROP, of Fairfield, was chosen President; John Sheldon, of Sheldon, and Daniel Storey, of Fairfax, Vice Presidents; Victor Atwood, St. Albans, Treas'r; and C. H. Hayden, Sec'y.

LABOR SAVING MACHINERY.—It is said that the labor which is done in England, (chiefly, no doubt, by means of steam,) would, if done by hand, require the labor of every able bodied man on the face of the globe. How would those persons, who object to labor-saving machinery, like to go back to the old, tiresome, disheartening processes of doing everything by the strength of human muscle? And carrying the objections out by restoring old fashioned stages, travelling in sloops, turning the earth with a bull-plow, buying poor cotton cloth at fifty cents a yard, selling wheat at twenty-five cents, and threshing with a flail?

Answers to Inquiries.

SWAMP MUCK.—Will swamp muck that has been drained and left in a pile through the winter, answer for corn without being composted with other manure? How much should be applied to the acre? J. H. BRYAN. *Farmington, Ct.*

Where soils are especially destitute of decayed vegetable matter, which is not often the case, swamp muck exposed to the winter, and applied alone, will prove beneficial; but we have never in any case found it nearly equal to good stable manure; neither have we found it so when made into a compost with ashes. But its greatest value appears to be its power of absorbing the liquid portions of animal manures. It will, if quite dry, absorb nearly nine times its weight of liquids, and hence, when applied to yards or stables will be of little comparative value if already saturated with water. It should be kept dry under a shed or in an out-house, where portions may be obtained and applied successively as wanted.

GUANO FOR CORN AND COTTON.—Please publish, as soon as convenient, the best mode of applying guano to corn and cotton—the quantity per acre &c. A. J. *Clinton, North Carolina.*

Guano may be well mixed with ten times its weight of pulverised soil or mould, sown broad-cast, and covered with a shallow plowing—a gang-plow would be just the thing for this purpose. The quantity should be from two to four hundred pounds of guano per acre—four hundred pounds for poor soils. If the soil is quite poor, an addition of one hundred pounds. applied in the hill before planting, would be of use. The best way is to drop a spoonful, (that is equal to a spoonful of pure guano,) to each hill, cover this with an inch of earth, and then plant the corn upon it. This mode has been found to succeed when unmixed guano in small quantities, has been applied to each hill.

We have no knowledge of the application of guano to cotton—but presume the same general rules to be applicable, as to corn.

An admixture of plaster or gypsum equal in quantity to the guano, has been strongly recommended, and would no doubt be useful—but in ordinary cases all the ammonia that can escape until plowed under, will be effectually retained through the absorption of the soil.

CORN AFTER TURNEPS.—In answer to P. B., Otego, I would state my experience. I have, in three different seasons, planted corn where I had turneps on one side of a lot the year previous. The turneps were grown on what I considered the best land. There was a marked difference in the corn all the summer, and at harvest I found the produce much less, after the turneps, but as I did not measure it, cannot say how much less. D. PLATT. *South Britain, Conn.*

PEAT ASHES.—Will you have the goodness to state the comparative value of *Peat Ashes*, as a garden fertilizer? A SUBSCRIBER.

Peat ashes are worth about as much as the poorer kinds of wood ashes, containing usually about 5 or 6 per cent. of potash and soda, with considerable quantities of magnesia, lime, and often iron. Their value is greatly impaired by exposure to rains, which soon washes away their most valuable ingredients.

THE OLD "BLACK HAWK."—A correspondent in Michigan, L. A. MARSHALL, wishes us to state "whether or not the old Black Hawk horse, owned by David Hill, of Bridport, Vermont, is a Morgan or not." There is no doubt of the fact that Black Hawk is a grandson of the original Justin Morgan horse. His history, together with that of the original Morgan horse, has frequently been given in the Cultivator.

MANURE FROM GEESE.—A correspondent, (D. PLATT, of South Britain, Ct.,) alludes to a common opinion among his neighbors, that goosedung is poisonous to pastures, and requests information. No accurate experiments have ever been made with it, that we are aware of, but there is no doubt that it is quite similar in character to the dung of other birds, which is well known to be among the most powerful of all kinds of fertilizers. The only way in which it can injure vegetation, is in quantities too large, corroding in the same way that guano is found to do.

EVER-GREEN SWEET CORN.—In your January number, 'E.' inquires about the keeping green and plump, Stowell's Ever-Green Corn. I reside in the city of Burlington, N. J., where the "inventor," as he claims, of the said corn, is to be found; and have frequently eaten of it, both of his growing and of my tenants, and think it in no respect preferable to other well cultivated sugar corn. F.

Information Wanted.

I would like to be informed through the Cultivator, if lime can be used profitably in "bringing up" soil that has been cropped, until it will not produce one half the amount of its original crop. The timber was principally beach and maple; and the soil what we call *hard-pan*. Soil from one foot to two and a half in depth. If lime can be made profitable, how should it be applied? I wish to know the best way to "bring up" my land; and any information through your paper would be thankfully received. Lime can be had for 18 3-4 cents per bushel. Plaster at about the same price. A SUBSCRIBER. *Berkshire, Tioga Co., N. Y., Jan.* 14, 1853.

STALL-FEEDING CATTLE.—I wish to inquire through the Cultivator, for the best and most economical way of stall-feeding cattle. I would like to hear from some one who has had experience—give the particulars, whether the feed should be ground, provided you had to go six miles to a mill? and should the cattle be confined in the stable, or allowed to run out through the day? The plan that I have adopted for the first time, being the first trial—is to feed corn from the shook not husked, in the stables, giving pigs access to the manure. If any one has a better way I would like to hear of it. J. OTIS. *Berlinville, Ohio.*

CULTURE OF CASTOR OIL BEAN.—Can you give the necessary information as to soil, culture, and manner of extracting the oil from the Castor Bean. Yours, BRACEY TOBEY. *East Glenville, Dec.* 27, 1852.

ROSENDALE CEMENT.—MR. EDITOR: What is Rosendale Cement? Is it proper for making hard floors for cellars, or pointing up cellar walls? If so, is it the best and cheapest article for such purposes? How is it to be prepared for use, and what preparation does the surface need previous to its application—what will be the expense per square yard of such a floor. Information on these points will much oblige me. Yours, G. R. GATES. *Trexlertown, Leghigh, Pa., Dec.* 7, 1852.

BARN DOOR FOWLS, &c.—Which are the best three varieties, all things considered, for the Middle and Northern States?

Are the pure blooded, or mixed breeds, the best? And if mixed, which varieties do best together?

For Northern New-York, what breed of cattle are the most desirable for the dairy, beef, and working oxen? What variety of sheep and swine are best?

S. R. W.

FIRE KINDLERS.—A late paper says that kindling materials enough to last a family a whole year, lighting quickly with a match, and starting any dry wood, may be made of a quart of tar, 3 lbs. rosin. mixed when melted, with as much sawdust, and a little charcoal—the whole to be spread while hot upon a board, and when cold broken into lumps the size of a hickory nut.

Horticultural Department.

Notes About Grapes.

THE *Western Horticultural Review*, loses none of its value on its course through each successive year. The last number contains an interesting communication from NICHOLAS LONGWORTH, the Nestor among American vine-growers, describing a new hardy *exotic* grape, which appears in every respect to be perfectly adapted to our climate. He says, "For many years I cultivated foreign grapes exclusively, to ascertain if any of them would suit our climate. Importing thousands of roots from the extreme south to the snow-clad hills of France, where the vine region suddenly ends, all proved a failure; and for years I have been rabid with all vine-dressers, who expressed a wish to cultivate the foreign grape. I am now compelled to cave in, and am gratified to do it." This remarkable grape, he ascertained had been several years in cultivation in Delaware, Ohio—had been brought from New-Jersey—and had been sent from Italy about 60 years ago. The name is unknown. N. Longworth, however, adds, "I believe this is the most celebrated of the German wine-grapes, and called the Traminer. It also resembles the Red Rissling, but I am told that it promises to be of a darker color; the color may be darker here, as we have a warmer sun." The vine is described as perfectly hardy, making a vast quantity of wood, which is small, short-jointed, and ripens to the utmost extremity of the shoot. It never mildews except in unfavorable positions. It is a profuse bearer, and ripens two weeks before the Isabella. Its color is clear red, bunches very small, berries round, uniform in size, and compact in the bunch—sweet, juicy, thin skinned, having very little pulp, and preferred in flavor to any American varieties.

Such a variety as this will be eagerly sought; and if its qualities hold out with successive years, it will prove eminently valuable.

N. Longworth states that he has about a hundred sorts of native grapes under trial, a few only of which will prove valuable. He regards the *Charter Oak* as an inferior Fox grape. He also finds that seedling Catawbas often have a disposition to go back to the parent Fox.

NEW SEEDLING GRAPE.—C. M. HOVEY states in his Magazine of Horticulture, that a new seedling grape has been produced from a native vine, fully equal to the Isabella, and ripening at least *one month* earlier than that variety. He received specimens of the fruit as early as the middle of September, which were the very last of the crop. The berries were round, black, and covered with a dense bloom; bunches as large as those of the Isabella; skin thin; flesh tender, with scarcely any pulp, "exceedingly sweet and delicious." The vine is hardy, vigorous and productive. The name of the originator is not given, as it would, if known, subject him to a flood of orders. The vine will probably be secured in the hands of a few, and in due time be offered to the public, who will of course make some allowance for the charms which novelty throws around every new horticultural production. Should this prove nearly so valuable as is hoped, and the same result be verified of Dr. Valk's new seedling, and Longworth's newly discovered hardy foreigner, we shall soon have quite an addition to our list of valuable varieties.

CLINTON GRAPE.—This variety, although not of the highest quality on the score of flavor, appears to lose nothing in reputation, as it becomes widely known and cultivated. It is well spoken of by C. M. HOVEY, who has fruited it at Boston, whose vines the past season were "loaded down with a prodigious crop." Its merits were also thoroughly examined before the late Ohio Pomological Convention. It was recommended for cultivation "for hardiness of vine, freedom from mildew, early maturity, productiveness, and value as a table grape—its qualities for wine being yet unknown."

A PROFITABLE VINE.—The Western Horticultural Review says that A. M. Clark, of Dayton, has gathered from a single grape vine, (we should like to know the variety, but presume it is the Catawba,) besides those used by the family, the past season, *fifty dollars* worth of grapes, at three dollars per bushel—that is, over sixteen bushels. We are told that it is well trained, well trimmed, and well cultivated.

Plans of Flower Gardens.

In the planning and arrangement of flower gardens, and in selecting and disposing of the plants in such a manner as to form the finest and most briliant combinations, may be found an interesting employment, by such of our readers as delight in the culture of flowers. This arrangement, it is very evident, cannot be made when the plants are in full bloom, for the garden must be laid out before it can be prepared for the reception of the plants or flower seeds, which may be deliberately accomplished during the leisure of winter; and the combination of colors, a most important requisite to effect, determined by artificial trial on paper, so that all will be ready as soon as the active season of spring commences.

There are two distinct modes of laying out flower gardens, each to be adopted according to circumstances. The first, where the most is to be made of a *limited piece of ground*, occupies the whole surface with flower-beds, with the exception of narrow gravel-walks edged with box. The second makes the most of a *limited quantity of labor;* and consists in keeping most of the surface covered with a smooth closely shaven carpet of green turf, in which, at proper intervals, flower-beds are cut. The great advantage of this mode, is the facility with which the grassy surface, which constitutes from two-thirds to nine-tenths of the whole, may be gone over once a week with the scythe, not requiring more than a tenth of the labor to keep cultivated beds in a neat condition.

Flower gardens of the first mentioned sort, are usually laid out in geometrical figures; one of the best plans which we have seen, was lately published

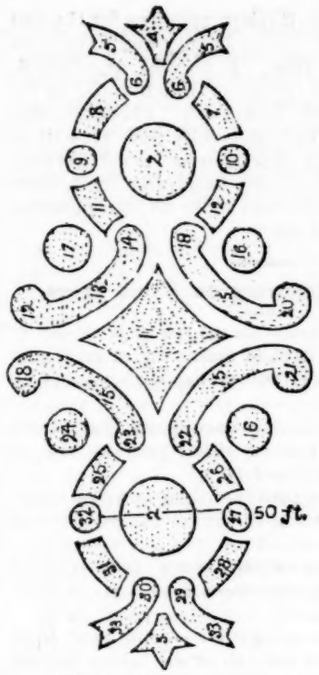


Fig. 2— *Dropmore Garden.*

Fig. 3—*Irregular Flower Garden.*

in the London *Gardener's Journal*, and is copied in the annexed figure. It is in the form of a circle, and may occupy a central or secluded portion of the ornamental grounds. If the walks between the beds are three feet wide, the circle will be about seventy-five feet in diameter. If this is too large, the exterior portions may be omitted.

Fig. 1—*Flower Garden at Camden Hill.*

One of the best plans for a flower garden, the beds of which are cut in turf, is the garden at Dropmore, as given by Loudon, and represented in the above, figure 2. A similar combination of colors may be effected as in the preceding one.

The above, it will be seen, is in a regular or geometric form, a mode of laying out only adapted to small gardens. Where there is a greater extent, the irregular plan exhibited in fig. 3, given above, creates a far more pleasing effect. The ground chosen should be an open space, flanked by trees and tall shrubs, and in the instance here represented, it lies back from the dwelling, *a*. This space is surrounded by the gravel-walk, which is lined with beds cut in the smooth turf, most of them being circular, on account of the ease with which such beds are laid out, and their forms preserved. A few arabesque beds are introduced for variety. The summer house, *b*, is placed opposite the dwelling, and commands a view of the whole garden—a point where the visitor wou'd naturally wish to rest a moment during his walk. One great advantage of this irregular plan, as every landscape gardener well knows, is the constant change in the view at every successive step in passing along the walk; while in the geometric mode of laying out, all is seen at once, from whatever point the spectator views the grounds. The superior cheapness of this plan, will also commend it to most Americans, where extravagance in expedniture is a point to be avoided.

Rose-Devouring Insect.

The roses have suffered greatly here for two or three years past, by an insect that deposits its egg on the under part of the leaves about the 10th of June, when the fruit trees are in full bloom. These eggs hatch toward the end of the month, presenting a small worm resembling a caterpillar, spreading themselves in every direction on the under part of the leaves, and when the time for blooming arrives, the roses have the appearance of being scorched by fire. Last year there was hardly a rose escaped them. I was told a few days ago, that the same destruction has occurred in Newfoundland. I have not discovered yet whether the eggs are laid by a bug or fly. F. McKay. *Halifax, N. S., Dec.* 1852.

This is probably one of a very numerous family of leaf-devouring insects, known by the general name of Saw-fly, belonging to the order Hymenoptera. The larvæ of many species have

considerable resemblance in form to caterpillars. We should have supposed the above-mentioned insect to be the rose Saw-fly, described by Harris, were it not for the fact that the latter works on the upper instead of the under surface. They probably pass beneath the surface of the soil and there change to the pupa state. Shaking them down on sheets and destroying them may be tried: syringing with soap-suds, or, still better, washing them with a solution of whale oil soap, in the proportion of a pound of soap to seven gallons of water, would probably be most effectual.

Fruit Culture.

THE NEWER PEARS.—Hovey's Magazine gives the following list of the newer pears, which have again fruited the past season, and proved fine:—Beurre Giffart, Beurre Langelier, Visouziere, Sheldon, Adams, Bonne des Zees, Josephine de Malines, Moyamensing, Oswego Beurre, Pratt, Tea, Triomphe de Jodigne, Doyenne Goubault, Kingsessing, Lodge, &c.

Among those that have borne the first time, and exhibited promising qualities, the following are enumerated:—Grand Soleil, Calebasse d'Ete, Moore's Pound, Beurre Sterkman, (this has been fruited for several years by Col. Wilder.) Zepherine Gregoire, Poire des Chasseurs, Doyenne Defais, Bergamot Leseble, Beurre Merod, Inominee Patrie, Belle Julie, Beurre Clairgleau, &c.

"STRAWBERRIES IN NOVEMBER," are acknowledged by the Southern Sentinel, from Charles A. Peabody, as picked on the 25th of that month. The New-York Agriculturor corroborates this statement, but fears that his assertion from actual knowledge, that the same individual had grown them ripe ten months out of the twelve, will be received by his brother quill-drivers, as purely fabulous. We can relate a fact almost as remarkable which none of our readers, at least, will doubt, that in the comparatively cold climate of Western New-York, we have seen a dish of good ripe strawberries, (of the Bush Alpine variety,) about one pint, picked on the first day of 12mo., (Dec.) and have gathered good ripe specimens on the 6th of the same month.

WHITE BLACKBERRY.—This fruit is noticed in a late number of Hovey's Magazine, by ROBERT MANNING. He says the color is like that of a very ripe Sweetwater grape—shape like the black; berries slightly smaller; flavor good. Its most remarkable property is "its productiveness, in which, (says R. Manning) it far surpasses any thing else of the kind that I have ever seen. The fruit is borne on long clusters, two of which come from every bud; and on two of these, fifty berries have been counted as the product of a single bud." In consequence of the poor success which has attended all attempts to improve the blackberry by seedlings, R. Manning recommends that it be crossed with this pale variety.

CULTURE OF THE GOOSEBERRY.—The committee of the Massachusetts Hort. Society, report on some beautiful specimens of English gooseberries, raised by *paving under the bushes*. They also speak in high terms of the continued excellence of Houghton's Seedling, and of its always being free from mildew.

ROME BEAUTY.—This handsome apple, as we are informed by W. N. GILLETT, a correspondent of the Western Hort. Review, requires for the full maturity of its size, color, beauty and flavor, to remain long on the tree. It may be questioned, therefore, if it will prove of much value as far north as the State of New-York, where the seasons are shorter. The unusually fine growth of the tree, its early productiveness, good keeping qualities, and its fair, large, handsome fruit, have probably contributed much more to its reputation than the quality and flavor.

Influence of Manuring on Fruit Trees.

I would like to know from the experience of others, what is the effect of manuring or enriching the different kinds of fruit trees, with respect to bearing? (*a.*)

Will not a liberal allowance cause fruit trees that bear abundantly every other year, to bear in the same way every year? (*b.*)

Will not an excess prevent their bearing abundantly, and force them to excess of growth and leaf?

Will not an excess cause cherry trees to burst their bark, and engender insects to destroy their vitality? (*c.*)

Such is the case in my garden—some pear trees which I enriched, but not too much, bore a second abundant crop, while another, which I made very rich, bore but one pear this season.

The peach trees growing in good limestone land, bear much larger fruit, and more abundantly, by a liberal allowance of manure.

Is not the exposure, north, south, east or west, important and different with respect to the several varieties of fruit trees, in planting them on the side of a hill? (*d*)

I have planted cherry trees three times successively, in one spot, and with every care they have died, while a pear tree since planted in the same place, last year, is doing well.

Which is the *best* time to prune trees—in the fall, spring, or mid-summer? (*e.*) J. HAMILTON. *Carlise, Pa., Jan.*, 1853.

(*a*) The character of soils, as regards richness, has the following influence on the productiveness of fruit trees: If the soil is poor, the trees will grow slowly, and the tendency will be to the formation of fruit buds. But the tree may be too feeble to bring these fruit buds forward, so as to produce a good crop—hence a higher degree of fertility, by not lessening much the formation of fruit buds, may develop them to far greater perfection, and a full supply of large, well-ripened, high-flavored fruit, be the result. But if too great a fertility is given to the soil—a very rare fault—fruit buds will not be formed, or if formed, the young fruit may drop from the tree. This result frequently occurs with young trees when in a rapidly growing state, and should not be regretted, as it is much better they should attain size, than become checked by heavy crops while young. With larger trees it is very rare, a stunted condition being by far the more frequent evil.

Those varieties, such as the Bartlett and Julienne pears, which bear abundantly when young, will not be so soon rendered unproductive by manuring, as the more tardy bearers, such as Tyson and Dix, but the fruit will be improved in size, and greatly in quality, by the increased vigor of the trees.

(*b*) Those varieties which bear alternate years,

are not usually changed in this particular, so as to become productive every year, but only to bear better crops in their productive seasons.

(*c*) We have never known any degree of fertility to burst the bark of cherry trees in this state, although such is the result in the west. We have, however, known cherry trees to be killed by a heavy application of strong manure, that would not have injured an apple tree.

(*d*) Tender fruits, as peach and apricots, should have a northern exposure, that they may mature in season in autumn, and escape the danger of early growth in spring.

(*e*) There is a great deal of *theory* on the subject of pruning and not much close observation in practice; but so far as practice has gone, it has condemned spring pruning, and recommended late summer, autumn, or what is nearly as good, early winter pruning. Very small limbs or shoots may be pruned at any time. Large wounds should be covered with a wet excluding-coat—such as shellac and alcohol, of the consistency of thick paint, which is the best composition for this purpose.

The Two Earliest Market Peaches.

A. Higley, of Hart's Grove, Ohio, inquires for the two best and earliest peaches for an orchard of four hundred trees, to supply Buffalo market. For extreme earliness, take Serrate Early York and Fay's Early Ann. The latter may not yet be in extensive supply by the nurseries. As a substitute, plant Early Tillotson, a better peach than either in flavor, and a productive sort, but a poorer grower in consequence of the mildew on its leaves and shoots. Cole's Early Red, is a free growing tree, and an abundant bearer, the fruit of good size, of fine appearance, and of good but not the highest flavor.

The Stanwick Nectarine.

Our readers will probably recollect the notices of this new nectarine, which appeared two or three years since, and which placed this new eastern variety far above any thing of the kind that had ever appeared. Small one-year trees sold in England for thirty to fifty dollars each. It appears by a late number of the London Gardners' Chronicle, that its value is likely to be much diminished by its extreme lateness—a quality not at all obvious in its Syrian localities, where our autumn fruits ripen early in summer. The Elruge and Early Voilet nectarines, old standard sorts, ripen under glass in England, early in autumn; the Stanwick, according to the account given, "remained on the tree hard and green till past the middle of October, and then cracked, and did not ripen." In other places the same result occurred, showing plainly that in England it cannot be expected to mature without fire heat. It will undoubtedly succeed better in this country, particularly in the middle and southern states. From its excellent quality, it is proposed to use it for crossing with our more common nectarines, in the production of new seedlings. The Gardeners' Chronicle, without mentioning names, treads rather closely on the toes of the Duke of Northumberland, for disseminating among pomologists the excellent specimens he raised, without ever so much as mentioning that they were ripened in a hot-house; but concludes that as the proceeds were for charitable purposes, that this omission may be, perhaps, in some degree excusable.

Culture of the Raspberry.

Newark, N. J., Dec. 1, 1852.

My Dear Sir—Yours of the 27th ultimo, soliciting information respecting the culture of the raspberry, was duly received. The inquiries you make shall be considered in the order in which you propounded them.

The Fastolf, Red Antwerp and Franconia, are the three best varieties in cultivation. The Fastolf is the richest, most highly flavored, and largest berry, but is too soft for a market berry unless the market is near at hand, and the greatest care is taken in picking and conveying to market.

The *True Antwerp*, known here as the North River Antwerp, and the Franconia, have sustained most fully the character given them by Mr. Downing, as to *size*, *flavor* and *productiveness*, and being hardier berries, are decidedly better for general cultivation. In the vicinity of Boston, where both these berries have been tested, the Franconia is the favorite berry. With us the Antwerp has been most favorably received, possibly because it has been better known. The Franconia, however, is beginning to assert its claim to a higher place in our estimation, than it has hitherto enjoyed. That indefatigable fruit cultivator, J. W. Hayes, has plantations of all the varieties, and after thoroughly testing them, side by side, gives the preference, even in our climate, to the Franconia. It is said to be later in ripening than the Antwerp. In New-Jersey we have not found this to be the case. May not such an impression be owing to its ripening its crop for a longer period? I know of no variety so prolific as the Franconia.

The Yellow Antwerp is a most admirable berry, and is worthy a place in every garden. Like the Fastolf, it is high flavored and soft, and consequently not adapted to general cultivation, but adds very much to the beauty of a dish of fruit, by contrasting so finely in color with the other varieties.

I have said nothing of Knevit's Giant—its high commendations entitle it to a more general trial, with the hope it will soon be removed from the *trial* to the *tested* list, in the catalogue of the American Congress.

The raspberry will grow well in any soil, if made rich, and sufficiently deep. My soil is a gravelly loam, and in it I find the raspberry to grow remarkably well; as evidence of this can add—I have taken from 65 stools, occupying a strip of ground 4 by 200 feet, canes that have yielded me when sold, $50. I have seen the vines of equal vigor and productiveness on clayey soils. Mr. Downing advises choosing an open sunny quarter of the garden, for a raspberry plantation, the wisdom of which it does not become me to question for northern climates, but it is not the best for our latitude. My raspberries have done best, both in the production of fruit, and in the growth of canes, where they have enjoyed some protection from our parching mid-summer sun.

You know my farm is so fully appropriated to the production of fruit, as to merit the appellation of a fruit farm. Having studied to crowd together the greatest number of trees consistent with their best condition, in a given space, to occupy most fully the ground with fruit, and thus attain to the practice of the greatest economy in

the cultivation, I have been induced to interpose between my rows of standard pear trees one side, and dwarf on the other, a row of raspberry vines. In one position on the farm these rows run from east to west; in another with similar culture, and in other respects equal, these rows run from north to south. In the rows that run from east to west, I have observed five-sixths of the canes to grow upon the north side of the row, owing to the foliage of the vines shading the ground sufficiently to preserve a degree of moisture, while the surfaces not so protected are parched by the scorching rays of the mid-day sun. All these varieties need protection. I have yet to learn that they can be left uncovered through the winter, and a fair crop of fruit be taken from them the succeeding summer. By referring to the standard works on horticulture, particularly Downing, you will find the Antwerp spoken of as being hardy enough to withstand the cold of our winters unprotected. It is true the canes will not be killed, but the crop of fruit will be very much diminished. Such is my experience, and similar I judge to be the experience of other cultivators around me, for I know of none who leave their vines uncovered. Such I know to be the practice of cultivators of the *Franconia*, reputed the hardiest of all the varieties, in the vicinity of Boston.

With a few words as to the treatment of our plantations, I will close. Early in November we go along the rows, and remove all the shoots of this year's growth, except such as are needed to constitute the stools for the next summer's fruiting, of which from three to five are left, if as many are found clustered together; this being done, two shovels full of well rotted manure is deposited around the stool, preparatory to covering, that its nutriment may be carried by the winter rains to the roots of the plant. The covering is readily done, by gently bending the canes from the contiguous stools together, to the ground, in which position they are held by the hand till a spade full of earth from an assistant operator fixes them in their position. The rows are in this way run over by a man and a boy; the covering is completed by another following, or is left for a subsequent task.

With the present prices of this delicious fruit in most of our principal cities, and the ready sale for the canes from our plantations, it is I think the most profitable crop we can take from our farms. Truly yours, J. M. WARD.

Rapidly Growing Trees.—Perhaps the most rapidly growing *evergreen* is the Norway Fir—much exceeding in this particular the Balsam, Arbor Vitæ, or White Spruce. On a deep, good soil, it often shoots up four or five feet in a season. The White Pine is a good grower. Among *deciduous* trees, the Silver Maple (*A. dasycarpum*) is one of the very best, far outstriping the Sugar Maple. The Silver Poplar is scarcely equalled by anything, in the speed with which it expands from a small twig into a large tree; and its glittering silvery foliage is certainly very beautiful. But it throws up suckers beyond all endurance, if near a dwelling or garden, and must therefore be very sparingly introduced, and be planted remote from cultivated ground, where a dozen scores of suckers cannot prove an inconvenience or injury.

The English Russet.

Some diversity of opinion prevails with regard to the value of this apple. Its flavor is not of the highest character, being only what pomologists would denominate "good," but in keeping, it exceeds everything else well known in the whole list of apples. At the Buffalo Pomological Convention, some years ago, early in autumn, a half bushel of this sort, a year old, was exhibited, having apparently all the soundness and freshness of newly picked specimens. A cultivator was formerly in the practice of handing to his friends a dish of English Russets with other sorts, with the remark, "Here are this year's apples, and there are last year's; take your choice." The New-England Farmer, (speaking of the Hunt Russet, a synomyn) says, "We have seen the apples, *two year's old*, fair, plump and juicy, kept on a shelf in a cellar, with no extra care whatever." An acquaintance was formerly in the practice, year after year, of keeping his large crop of English Russets till other apples were gone, and then, just before early apples came in, of selling them invariably for one dollar per bushel, the common price of the best winter apples, being about twenty-five cents. This variety is profusely productive, the fruit hanging on the branches like strings of onions, which is one reason that the specimens are of only moderate or of rather small size. Its smallness, in connection with its firmness, is no doubt one great reason of its keeping qualities, by furnishing a means of escape from the usual battering and bruising given to winter apples, in the very common and careless process of picking and carting. These qualities taken together, that is, long keeping and productiveness, have rendered the the English Russet a very profitable apple for market, although some refuse to set out large numbers on account of its very moderate flavor.

We have given the Hunt Russet as a synonym—the New-England Farmer, which gives an account of it, is so inclined to regard it, and pronounces it as standing at the head of all apples in New-England—which is certainly correct, so far as long-keeping qualities are concerned. The difference in the thickness of the stem, which that paper notices, is a variable character, huge grown specimens in nearly all apples having shorter and thicker stems than those of smaller growth.

SECURING GRAFTS.—We have never found any mode equal to packing grafts in fine moss, for keeping through winter. Earth or sand is the most common covering; but grafts kept in these must be carefully washed to prevent dulling the grafting knife. Besides, this covering is not so easily removed or replaced as moss.

HARDY CLIMBERS.—The best hardy climbing ornamentals, for a trellis or arbor, are the following: Bignonia radicans or trumpet creeper; the Chinese Twining and Yellow Trumpet, and Scarlet Trumpet Honeysuckles; Chinese Wistaria, (requiring very deep and rich soil;) and Aristolochia or Dutchman's Pipe. To these should be added those tran cendently showy climbing roses, the Baltimore Belle and Queen of the Prairies.

The Grazier.

Training Steers.

HAVING had some experience in breaking and managing oxen, I take this opportunity of presenting, in answer to one of your correspondents, my mode of transforming the wild and unmanageable steer, into the gentle and well-trained ox. The first point is to make them tame and gentle. This may be accomplished by feeding them out of the hand, and carding them daily. They should be approached gently, without yelling at them until they are frightened out of their wits. After having reduced them to a state of perfect docility, a good yoke should be procured, suitable to their size and strength. A small pen is necessary to put on the yoke; approach gently with the yoke, patting and speaking gently to them until you have the yoke on the off steer; then let an assistant drive the other under the yoke. Their tails should then be securely fastened, to prevent their getting the habit of turning the yoke. They should be yoked in the morning, and unyoked at night—in this manner, for several days, until they become accustomed to the yoke.

The first thing to teach them is, to stop at the word of command. This may be done by striking them across the face; the blows should be repeated until they stop, and then discontinued; by striking them for every non-observance of the word of command, they will soon learn that by stopping they will avoid it, and will act accordingly. They may be taught then to 'gee' and 'haw,' by gently pushing them around. Backing may be taught by beginning with an empty cart on a side-hill; then on a level; then with an increasing load, until they will back nearly the same load they will draw. They should never be put to a load that they cannot readily draw, or drilled by prolonged exercise beyond the period when it becomes irksome. Loud and repeated yelling, or the severe use of the lash, is both cruel and useless. Clear and intelligible, yet low and gentle words, are all that is necessary to guide a well trained ox. The ox understands a moderate tone more perfectly than a boisterous one, as all sounds become indistinct as they increase. A command should never be given unless enforced. Many bear with bad tricks for a long time, without even an expression intelligible to them—but when patience departs, a thorough storm of blows is poured upon them. This is the way to ruin every beast; a single blow should be given for each offence.

Working oxen should have their rations of grain as well as horses, whenever there is hard work to be done. The yoke should be carefully made, and set easy, and the bows well fitted to the necks, and properly fastened to the yoke. Cattle are liable to sore necks if used in a storm; their necks should be greased, and have respite from work until well. With kind treatment and good yokes, their necks will seldom become sore. J. *Montgomery co., N Y.*

Saving Fodder.

There are a number of ways by which fodder may be saved during this scarce winter. Racks, to prevent treading in the mud, are one; warm shelter and clean litter, to prevent a large consumption merely to keep animals warm, is another; chopping up hay and straw, and mixing them while feeding out, with chopped roots, is another. Corn fodder is commonly very much wasted by the rejection of the hard stalks in eating—a difficulty which many who have chopped them, have failed to remove, in consequence of the great length of the cuts which most straw cutters give them. In England, hay and straw is cut up by machines driven with steam, almost as fine as powder—this is still more necessary with the harder and coarser stalks of corn. An acquaintance drives his stalk cutter with three horses, cuts very short, and finds great advantage in it in feeding his thirty cows.

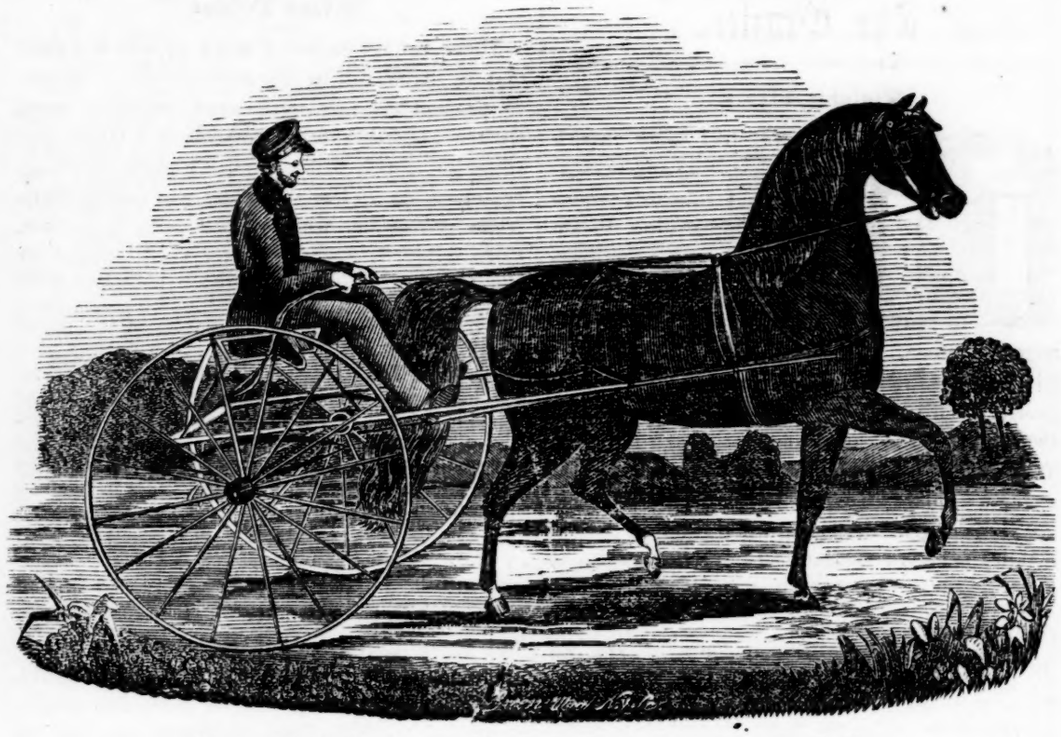
Apples for Stock.

It will be a long time before there is a surplus apple crop in this country,—if farmers only know how to use them,—even if large orchards are numerously planted every year. Fruit for market, foreign and domestic; next for home use, as table fruit, and for dumplings, puddings, pies, and for stewing; thirdly, for fattening hogs, for which they serve an admirable purpose; fourthly, for feeding milch cows, where they prove also valuable, if the quantity is gradually increased from a small commencement; and lastly, they are particularly useful as fall and winter food for horses. The Michigan Farmer informs us, that I. W. Ruggles, of Pontiac, raises a large proportion of *sweet* apples, on which he feeds nearly all his domestic animals, and that a neighbor considers them nearly as good for horses as oats. We have long known them to be fed very advantageously to horses.

Tumors on Cow's Udders.

I have in my possession a heifer, two years old, that has a bunch growing on the udder, just forward of the teats; it is a little flattened, an inch in diameter, and it is connected to the udder by a neck, about the size of a pipe-stem. Would it be advisable to cut it off by tying a string around the neck? It has been about one month since first discovered; at first it was about the size of a walnut without the shuck. Will some one please answer in next number. J. H. Bryan. *Farmington, Ct.*

Bots in Horses.—A correspondent of the Southern Planter gives the following, as a simple and excellent remedy for bots in horses:—drench freely with sweet milk and molasses, well shaken together; continue it, a bottle full every fifteen or twenty minutes, according to the severity of the attack, until the animal becomes easy; then give a quart bottle full of strong salt and water, followed soon after with a quart of castor oil. This he says, if administered in time, always cures. The difficulty is, with many not well experienced, to distinguish attacks of the bots from some other diseases.



Young Black Hawk, owned by J. D. Remington, Sennett, N. Y.

Young Black Hawk is five years old—was bred by Mr. Hyatt, of Litchfield, Ct.—was got by Hill's Black Hawk, Vermont. Dam by Old Membrino of Dutchess co.—gr. dam by Plato—gr. gr. dam by imported Messenger. His dam was a fine representation of the Messenger stock of horses, a mare of great bottom and speed. Young Black Hawk was bought of Mr. Hyatt in 1848, by the present owner. He is a jet black, of good size, and one of the best proportioned and elegant moving colts that can be produced. He took the third premium at the State Fair at Rochester, in 1851, and the fourth at Utica, last fall, in class of all-work; and he also took the first prize in our county last fall—also when he was two years old.

The above figure may be considered a correct likeness of the horse from which it was taken. It represents his style in harness very correctly; he is as playful and good humored in his disposition as a pet lamb, though possessing all the courage of the high mettled Arabian. He is fifteen hands high, and weighs over 1,000 pounds when in season—his back is fifteen inches long, and hips twenty-three in length—also sixteen inches across the loin, from one curl to the other—a line drawn from the point o" shoulder back to a line dropped from setting in of withers to his back, is two feet. By the few points I have given the measurement of, the public can judge pretty correctly of the rest. Yours respectfully, J. D. REMINGTON. *Sennett, Cayuga co., N. Y., Jan. 2, 1853.*

Duration of Gestation in Animals.

Among the lower animals, it has been observed that the length of the time which the female carries her young, is less definite and uniform than with mankind. These variations have been, by some, supposed to be produced by the age, the constitution, the health or condition of the parents; by others, the diet, or the sex of the young, the season of the year, and other causes, have been assigned, but none has been named that has been *generally* received as the true cause.

Over twenty years since, this subject attracted the attention of the *savans* of France, and a member of the French Institute made numerous observations, from which he obtained some results that are worthy of attention, even at the present day. He had kept a careful record in the case of 577 cows, 447 mares, 912 sheep, 161 rabbits, 25 sows, 8 buffaloes, 4 dogs, and 2 asses.

In regard to the cows, he found their usual term was a few days over nine calendar months; but he observed some, who appeared to complete their full time at eight months, and others who carried their calves for ten months and twenty-one days, making a difference between the shortest and the longest time, of eighty-one days; a difference much greater than is generally supposed.

The buffaloes, he found to vary from ten to twelve months, and yet the young brought forth at the shortest term, appeared to be fully matured for external life.

Of the mares, he found the common time to be a few days over eleven months, yet some did not foal for more than fourteen months. The greatest variation, among those whose full time appeared to be completed, was 132 days. Among mares, it was found that a much larger proportionate number exceeded the usual term, than among the cows.

Of the two asses, one foaled at the end of the 13th month, and the other at the end of the 15th

And the sows, also varied from the end of the 3d, to the end of the 5th month.

The sheep were more uniform in regard to the time they carried their young, than either of the above; as but few exceeded, while more fell short of the usual period of five months. The greatest *difference* amounted to but eleven days. The dogs varied but four days, and their period was found to be two months; while the rabbits, who carry their young but one month, were found to vary eight days. C. H. Cleaveland. *Waterbury, Vt.*

L. F. Allen, of Black Rock, N. Y., has kept (according to the *Agricultor*) an accurate statement of forty cows, the past season, consisting of Short-horns, Devons and Herefords, and grade Short-horns and Devons. No average difference of time was found to occur between cows of either breed or its grades. He found no difference between bull and heifer calves—contrary to common opinion—and no difference between old and young cows. The shortest period was 274 days; the next shortest, were two cows at 279 days; the longest was 291 days; the next longest, two at 290 days. Both the longest and shortest period were with bull calves. The average time for the whole forty cows, was 283¼ days, or 9 months and 13 days.

The most protracted period that ever came under our observation, was 319 days, or 10 months and 19 days, only two days less than Tessier's longest, and exceeding by 28 days the longest period mentioned by L. F. Allen. The calf was quite as large as an ordinary four-weeks calf, and required the assistance of four men in its birth, destroying the calf without injury to the cow. This cow usually, but not always, extended her period beyond the usual time.

Breaking Steers.

The intelligence (if the term may be used,) and instinct of animals, especially of young animals, are so closely combined, that the latter needs only to be studied, to enable the farmer to know how to manage his cattle and horses, so far at least as breaking and general use is concerned.

Young animals are at first instinctively afraid of restraint. They are unwilling to have their freedom of motion impaired, or impeded in any way. Their instinct leads them to resist any restraint put upon their "natural rights," and to resist until they find resistance useless.

This is the great thing to teach them—that resistance is useless, and getting away an impossibility.

Turn your steers intended for mates, into a barn floor well littered, and close the doors. Be sure that they cannot get off from the floor by jumping into the bay, or find any means of egress, until you are ready to turn them out. Have your yoke, a chain, and if at hand, a pole or cart, or sled tongue.

Then quietly, without loud words, go patiently to work. The steers will soon find they cannot get away, and without any lengthened resistance, will suffer themselves to be approached, handled, and yoked. Then teach them the meaning of the words and phrases to be used—to haw, to gee, &c., at the word Hook and unhook the chain, and teach them to turn with the tongue or pole between them. It is strange how much can be accomplished in a few hours, by a man who will work in this way patiently, without scaring the steers, or getting angry at them, or abusing them.

A long whip should be used, made of a withe some eight feet long, and a short, light lash, from one to two feet in length.

Never turn steers into a yard or pasture, with the yoke on. Give them to understand that when the yoke is on, they are to be subject to a master until it is taken off. Never feed them in the yoke, unless it be a nubbin of corn from the hand, or something of the kind.

Any man who is fit to break steers, will get a yoke *handy* in two lessons as above, of half a day each.

But they must learn to lay out their strength by degrees; and the best way to do this is to work them with other cattle—in the middle, or behind.

This is a very good course to pursue, perhaps as good as any. Those who have tried it fairly and faithfully, always break their steers in this way. Two years old is young enough to commence the process; and when commenced, let it be carried out, by yoking, driving, and working every day, if possible, for some succeeding weeks.

But after all, few rules can be given which will be of any use, unless a man has the *will* to study the instincts of his animals; the *wish* to find out the instincts, and the *common sense* to treat them as animals governed by instinct. J. *Stowe, Vt., Jan.* 24, 1853.

Oxfordshire Sheep.

I am convinced that a good agricultural paper pays the farmer a hundred fold its cost, simply as a matter of *pecuniary profit*. I have just had this truth illustrated in my own experience. Like many other farmers, I had been for several years dissatisfied with the profits on raising fine wooled sheep. The income has for years, been little more than the cost of food and attendance; I was satisfied that wool merely, without mutton and market lambs, would not pay. But there was nothing better about me than the French Merinos, and these at extravagant prices, and superior, if at all, for wool only.

In this state of mind, I became acquainted through the Cultivator, with one of your correspondents, John T. Andrew, of West Cornwall, (Ct.) a successful breeder of fine animals. In the course of some correspondence, relating to the purchase of some of his Chittagong fowls, I learned that he had just such sheep as I wanted. I have just received four specimens, a pair, and two lambs. They are New Oxfordshire, of the largest size, and most beautiful in form and fleece. The pair, when in good condition, will weigh 500 lbs. They come early to maturity, fatten well, and will bring from fifteen to twenty dollars each, for mutton. They fully satisfy my highest expectations, and I shall be proud to exhibit them to the lovers of beautiful sheep and fine mutton. The French Merinos are selling from $100 and upwards. These are, for my use, better and more profitable sheep, and yet the four cost me, with all expenses included, not more than $100. For the other, $300, I am much obliged to the Cultivator, and it seems to me a very small tribute of gratitude, to send you the enclosed two dollars as the first year's subscription to the Country Gentleman. Yours, &c., O. N. Bullis. *Chazy, Nov. 28th,* 1852.

Notes for the Month.

TO AGENTS AND SUBSCRIBERS.—We take this early opportunity to tender our sincere thanks to the Agents who have so efficiently and promptly seconded our efforts to furnish the farmers of our country with a valuable and cheap journal, and to our many friends who have sent us their names without direct solicitation. Permit us farther to suggest that while the snow covers your fields, and you are to a considerable extent relieved from severe labor, you cannot better promote the cause of agriculture, than by urging upon your friends and neighbors the importance of subscribing to and reading the CULTIVATOR. It remains for you to say, whether we shall be sustained in furnishing you with such a variety and amount of matter at a price so nominal. There is still ample time to canvass your towns before spring opens. Will each and every one of our subscribers take the matter in hand, and "build over against his own house."

TO CORRESPONDENTS.—We have several papers, in answer to the inquiry as to the best method of training steers, the first of which has already appeared. The others shall be given hereafter. We are greatly obliged to *An Otsego Hop-Grower*, for the continuance of his papers on the culture of the hop, all of which will appear in due season. A large number of other favors, from various sources, are filed for insertion, for which the authors have our thanks.

AN IMPROVED SEED DRILL.—We have recently seen a working model of a seed drill, invented by BEEBE & WORMER, of this city, and for which they are taking measures to secure a patent. The drill is designed to be drawn by two horses, is six feet in width, and makes nine furrows, eight inches apart, when used for sowing grain. The drill points are simple in their construction and attachment to the beam, and can easily be removed to adapt the machine to planting corn. The contrivances for regulating the amount of seed do not differ essentially from other drills in use. In the rear of the axle-tree and suspended to the main frame-work of the machine, is a harrow, so adjusted that a tooth follows on either side of the drill furrow, covering the seed which has been dropped completely, and still farther in the rear is a roller, which completes the work. The drill points and harrow are easily raised by a lever at the rear of the machine, when turning in the field or passing any obstruction. The drill has a solid, substantial look, and will no doubt be durable and do good service. The drill, harrow and roller, are not new inventions, but the makers of this machine claim originality in the effective combination of them, and in simplifying the construction of several parts. We shall present a cut of the machine at some future time.

PROF. NORTON'S LECTURES.—The Executive Committee of our State Ag. Society, made application to Prof. Norton's family, for the course of lectures delivered by him in this city last winter, for publication; but we regret to learn, as we do, by a letter from Prof. N.'s father, that they "are not in such a form as to admit of their publication. They were never fully written out, having been delivered at Albany and New-Haven, from brief notes."

A HINT.—"I got an excellent idea from your Specimen No.—'Make the introduction to all communications as short as possible.' Of all things, I hate to read long prosy introductions, and shall expect your paper to be pretty free from them."

ORCHARD GRASS.—Extract of a letter from LEWIS SANDERS, Esq., Grass Hills, Ky.: "In one of your rerent numbers, a correspondent expresses an unfavorable opinion as to Orchard grass. My experience in cultivating it warrants me in recommending Orchard grass in preference to any other, either for pastures or for hay. Upon this subject, I have recently prepared a paper, which will soon appear in the Louisville Democrat." We hope Mr. S. will send us a copy.

GIVING NAMES—AND PRICES.—A correspondent very properly recommends that persons writing for publication give their names and residences, as private communications addressed to them at many times, would be beneficial. Also, if persons advertising farm implements would give their prices, it would save purchasers much trouble, and insure many sales for themselves.

CORN FOR FODDER.—Prof. Mapes asserts that the Stowell corn, so famous for preserving its succulence for winter boiling, "will yield double the burden of stalks and leaves," of any other he has tried. If this should prove true, it will certainly be more valuable for fodder than for the winter use of the grain, which, so far as we have tried it, is too tough to be agreeable, after being strictly preserved and prepared according to the published directions.

THE BALANCE GATE.—WM. C. VAN HOESEN, of Leeds, Greene co., N. Y., has patented an ingenious and simple contrivance, for opening and shutting a gate without dismounting from a carriage.

It is supported by two upright posts, between which it is balanced by posts in the centre. On the top of the upright posts are placed horizontal strips, extending each way half the length of the gate. To these strips, cord pulleys are attached, connecting with levers over the posts. By pulling the hand cords which hang at the end of the horizontal bars, in reach of the person driving, the gate is detached from its fastenings and swings open and fastens itself; and when the carriage has passed through, the driver pulls the cord at the other side, and the gate swings back to its original position.

The inventor is spoken of as a practical farmer, who has thoroughly tested the practical operation of the gate, and found it to work well. We have not seen this gate, but it is manifest that the less time and trouble requisite in passing from one enclosure into another, or from private grounds to the public highway, the better.

SMALL POTATOES.—Mr. J. CASE, of Troy, (Pa.) says:—"I have seen several large "stories" in the papers lately on raising potatoes, and must tell you one that has not been in print. One of my neighbors planted last spring, *one bushel* of the *smallest* kind of all sorts of potatoes, (and cut every one at that, making two pieces in a hill,) and harvested *eighty* bushels of *good sized* tubers from the one bushel planted."

[The corn crop about which Mr. C. inquires, produced 95 bushels *shelled* corn per acre.]

MULCHING POTATOES.—A correspondent of the Genesee Farmer covered his potatoes as usual, but on one part applied straw six inches deep. Those covered, were "much larger and better" than the others. We have heard of other similar results, but the experiment has not always proved successful. THOMAS PEIRSON, of Lockport, N. Y., an intelligent English farmer, tried the experiment the past season, on rather heavy soil, without any sensible effect.

CATTLE IMPORTING COMPANY.—An association has been formed in Madison county, Ohio, with a capital of $10,000, all of which has been raised, for the purpose of importing improved breeds of stock, for the farmers of that county. One or two agents are soon to be sent out, to make the selections.

HOG PACKING AT CHICAGO.—The number packed the past season was over 22,000.

A Fine Farmery.—The report of the committee on farms, of Licking County Agricultural Society, Ohio, describes the farm of N. B. Hogg, as remarkable for its neatness and extent. The portion of the barn allotted to implements, contains nine plows, five or six scythes, ten or fifteen rakes, all neatly arranged; and in a long building adjoining stands half a dozen wagons, and several harrows and cultivators. The barn-yard contains three acres, the whole a fine turf, and free from straw and litter. The stable is well arranged, and has accommodations for forty horses. A fowl yard, enclosed with a picket fence fifteen feet high, is variously divided for different kinds of fowls—the hen-house is two stories high, and contains several apartments. The committee does not inform us of the size of the farm.

A Convenient Farm.—The same committee, in their report of the farm of Peter Kaufman, containing two hundred acres of highly cultivated land, state that it is divided into ten acre fields, every one of which is entered by a good gate with masive posts, and that not a set of bars is to be found on the farm. Now, suppose that every gate, twenty in number, was replaced by bars; that each of these were opened one hundred times yearly, and that only three minutes were consumed each time in removing and replacing—what would be the aggregate amount of labor expended annually on the twenty? No less than *six thousand* minutes, which at 10 hours per day, would be ten days a year consumed in the operation.

Good Crop of Corn.—The Windsor County, (Vt.) Ag. Society, at its recent winter meeting, awarded its first premium for the best field of corn, to Mr. J. W. Colburn, of Springfield. The field consisted of four and a half acres, and produced 95 bushels per acre—weight of shelled corn, 58 1-2 lbs. per bushel—weight of cobs, 12 3-4 lbs. per bushel. This was a great product, considering the severe and protracted drouth of the last season. "It was," says Mr. Colburn, "the *deep plowing* which saved the crop."

Conveying Cattle by Railway.—So great is the saving of fat and flesh by the transportation of cattle by railroad, instead of by the old way of driving, that a distinguished English farmer estimates his saving, in this way alone, to amount to six hundred pounds sterling, or nearly three thousand dollars annually.

Fear of Competition—The Cheshire Earmers' Herald reports the speech of Sir John Shelley, in which he asserts that "there is no use in taking the trouble of farming at all, until the land is drained." He applied the same remark to the erection of suitable buildings, constructing roads, and making other permanent improvements. He has for 17 years farmed 2,000 acres, and is not afraid of all the competition of the world, because his land is thoroughly drained, and his buildings in good condition. Those who have undrained land, have much greater need to fear the competition of such farmers as himself, than of foreigners.

Sub-soiling in California.—We perceive by the report of the Agricultural Fair held at Sacramento, that both farming and gardening are making very commendable progress in that sun-set region. Some of the best horticulturists are strenuous advocates of the use of sub-soil plows; and as a proof of a fair depth of soil, we may mention the *beets* exhibited by Smith, Barber & Co., which were seven and a half feet long, but we are not informed whether this length included the stalk, or the root only. Some of the vegetables were no larger than we sometimes raise in New-York State.

Liquid Manure Lost.—Dr. R. A. Smith, examined some years ago, the waters of the small river Medlock, in England, a stream that would hardly be dignified with so high a title in this country as the name of *creek*. He found by analysis combined with estimate, that the following substances were carried down by the waters of this stream, yearly:—3,200 tons of potash, 4,640 tons of soda, 17,000 tons of lime, 1,280 tons of phosphoric acid, 8,000 tons of sulphuric acid, besides other valuable matter. Its thickly peopled banks, no doubt increased this amount of manure, which might have been turned to admirable advantage in irrigation.

Value of the Hay Crop.—The governor of New-Hampshire, estimates the value of the hay crop of that state at about $7,000,000 to $8,000,000 yearly.

Standard Weight of Grains, according to the laws of New-York:—

		Ordinary weight.
Wheat,.....	60 lbs.	..... 55 to 65 lbs.
Rye,.....	56 "	..... 46 to 56 "
Barley,.....	48 "	..... 44 to 56 "
Oats,.....	32 "	..... 28 to 44 "
Indian Corn,...	56 "	..... 50 to 62 "

In our Jan. No. we published an advertisement of H. L. Emery, in which was the following paragraph:

It is proper to remark here, that Westinghouse was at one time the agent for selling the Emery power, and but recently has made the kind used at these trials, which, excepting an alteration in increasing the gearing, (to its disadvantage in strength and durability,) is in all other respects essentially the same as the Emery power, and is claimed to be a bare-faced infringement of his letters patent, and legal proceedings have been directed against him therefore—thus establishing beyond cavil the superiority of the Emery's Endless Chain Power over all others, and particularly the *rack and pinion*.

This, we are assured, does great injustice to Mr. Westinghouse, who denies having at all infringed upon Mr. Emery's patent, and assures us that no suit has been commenced against him to his knowledge. Of the real merits of the case we know nothing; but we deem it but an act of justice to Mr. Westinghouse, to give this statement, and to disclaim all intention of injury to him.

New Washing Machine.—Among the new inventions, recently brought to notice, is that of the "India Rubber Peacemaker Washing Machine," mentioned by J. S. Gould, in his report of the fair of the Rhode Island Agricultural Society. He remarks, "It is not saying too much to assert that the machine *perfectly* imitates the action of a woman's hand, both in the degrees of pressure and the mode of rubbing. It is precisely the article needed by farmers, and will be as cordially welcomed by their wives and daughters, as the best mowing and reaping machines have been by themselves. It is sold at $10, and was invented by E. L. Evans." It is named the "peacemaker," we presume, from the moral sunshine it is destined to diffuse among the manipulators of the laundry, and to end the terrors of "*washing day*."

Making Winter Butter.—I will give you our method of making winter butter. When the milk is brought in, it is put on the stove and scalded. It is then strained and put away for the cream to rise. We set the milk until sour; then skim off the cream—keep it until we get enough for a churning. Stir it every day, it keeps better, and is more alike. We use the old fashioned dash churn. We never used any other, and we think it good enough, although there may be others better. To every gallon of cream, we put in two large orange carrots, prepared by grating them into a pint of warm milk and then straining. Butter made in this way is as good as butter made in October. It looks yellow, and is not crumbly at all, but cuts as smooth as June butter. W. F. Hopkins.

Trial of Implements at Geneva.

MR. TUCKER—I have quite recently discovered an article in the January No. of the Cultivator, over the signature of H. L. Emery, calculated to deceive the public in regard to the utility of my Horse Power.

There seems to be one or two errors in the Report of the Committee on Agricultural Implements, to which he clings like a drowning man to a straw, and taking error for his data, he brings forth error which in due time will fall back upon the Emery Power with tremendous force. That the Emery Power is soon to become a matter of secondary consideration, is evident from the Report itself. And I shall be prepared to show the matter up in its true light, through the columns of a future number of the Cultivator.

I have endeavored to avoid controversy at all times, preferring that my machine should go before the public upon its own merits; but the incorrectness of the results produced by my friend Mr. Emery, in his Review, demands an explanation. E. W. BADGER.

Fly Creek, New-York, Feb. 15. 1853.—1t.*

Gooseberries, Fastolf Raspberries, &c.

JOHN SAUL, Washington, D. C., offers the following for for sale:—

4,000 Lancashire Gooseberries, comprising all the leading varieties, such as Crown Bob, Roaring Lion, Red Warrington, Champagne, Leigh's Rifleman, Parkinson's Green Laurel, Woodward's Whitesmith, &c. The plants are very vigorous and thrifty, and true to name.

4,000 Fastolf Raspberries, strong canes, warranted the genuine variety.

300 Raby Castle or Victoria Red Currant—the largest and best. 300 Wilmot's large Red do 500 White Dutch do.

300 Black Naples do. ☞ The above at very reasonable prices.—March 1, 1852.—1t

Thorough Bred Devons For Sale.

THE undersigned offer for sale the following:—

BULLS.—1st. "*Uncas*,"—calved March 19th, 1851. 1st prize at the show of the American Institute, 1852. Sire "Meguntícook;" grand-sire, "Prince Albert," (102); dam, "Nonpareille, by Lord Lynedock."

2d. "*Red Jacket*"—calved May 5th, 1852. 1st prize as calf at show of American Institute, 1852. Sire, "Meguntícook;" grand-sire, "Prince Albert." (102); dam, "Meadow Lilly," by "Baronet," (6); g. d. "Helena."

3d. "*Osceola*"—calved September 11th, 1852. Sire, "May boy," (71); grand-sire, "Duke of York," (37); dam, "Moss-rose," by "Duke of York," (37); g. d. "Nonpareille," by "Lord Lynedock."

4th. "*Dacotah*"—calved October 29th, 1852. Sire, "May-boy," (71); grand sire, "Duke of York," (37); dam, "Red-bud," by "Meguntícook;" g. d. "Nonpareille," by Lord Lynedock.

HEIFERS.—1st. "*Rose*"—calved October, 1849; bred by Mr. R. C. Gapper, Canada West. Sire, "Major;" grand-sire, "Billy;" dam, "Cherry," by "Billy;" grand-dam, "Beauty."

2d. "*Gazelle*"—calved October, 1850; bred by Mr. R. C. Gapper, C. W. Sire, "Rob Roy;" grand-sire, "Santa-Anna;" dam, "Cherry," by "Billy;" g. d. "Beauty."

These animals are of the best blood to be found in England. "Meguntícook," "May-boy," and "Nonpareille," having been imported from the herd of George Turner, Esq., and "Helena," from that of James Quartly, Esq., by ourselves; while "Billy" and "Beauty," were imported by Mr. Gapper, from that of James Davy.

With the rest of our herd, they may be seen at all times, on our farm, 3 miles from the Rhinebeck station of Hudson River Railroad.

The figures in brackets refer to the English Herd Book.—Animals delivered, free of expense, in Albany or New-York.

W. P. & C. S. WAINWRIGHT.

Rhinebeck, Dutchess co. N. Y.—March 1—m3t

Balsam Firs, Arbor Vitæ, and other Forest Trees.

HENRY LITTLE & CO., of Bangor, Maine, will furnish any number of Evergreen and other Forest Trees, taken up with *earth on the roots*, with the greatest care, and sent to any part of the United States by steamboats or railroads, and carefully packed in large boxes, at short notice, at the following prices, viz:

From 6 inches to 1 foot, at 1 cent, or $10 per 1000.

From 1 foot to 2 feet, at 1½ cents, or $15 per 1000.

The above prices refer more particularly to Balsam Fir and Arbor Vitæ Trees.

We charge what the boxes cost, but nothing for packing.

For three years past, the trees we have procured and sent to a distance, have lived generally, and have given good satisfaction. Evergreens will not live unless taken up with great care. Bangor, Feb. 1, 1853—m3t

North River Agricultural Warehouse,

No. 53 Courtland-street, New-York.

GEORGE H. BARR & CO., invite the attention of Farmers, Planters and others, to their large and varied assortment of Agricultural Implements, Manures, Seeds, &c., &c., all of which will be furnished at the lowest prices.—Their assortment includes

PLOWS—All the improved kinds by the most approved makers.

HORSE POWERS—Of all kinds and sizes, with and without Thrashers, &c.

CORN SHELLERS—All the improved kinds, and some of recent introduction.

STRAW CUTTERS—Of all sizes and kinds, for hand and horse-power

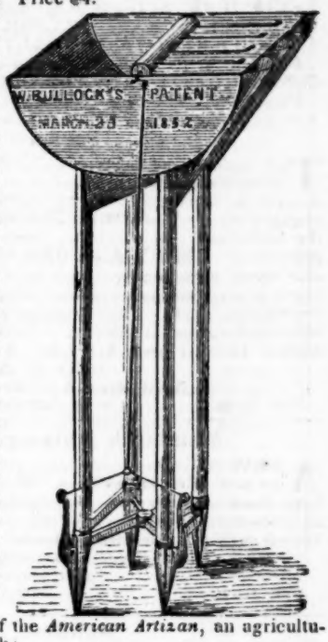
CORN AND COB CRUSHERS—Of all kinds and sizes.

FANNING MILLS, Cultivators, Harrows, Agricultural Barometers, Churns of all the approved kinds, Rakes, Hoes, Forks, and a general assortment of Horticultural and Garden tools. Feb. 1—2t

Bullock's Patent Seed Planter,

An entirely New Article, specially adapted to the Planting of Corn, Beans, and Garden Seeds.

A HIGHLY useful implement for the agriculturist, which recommends itself to the interest of every farmer in the country, both in the saving of labor, and the increased yield of his crop, abundantly rewarding the trifling investment. Patented Nov. 2, 1852. Price $4.



One man will plant an acre of Corn in 2½ hours, putting an exact number of grains in each hill, and at equal distances apart, thus * * * in addition to the saving of time, which is two-thirds, the gain in the crop on five acres, would more than pay for six machines.

It has been shown by actual experiment, in planting alternate rows of corn on a field with the planter, in opposition to the old system. The rows planted by the planter would easily produce seven bushels to the acre increase, over the old plan. So every farmer who desires a large crop, will avail himself of the advantages offered in the use of this, one of the most valuable inventions in agriculture.

Read the remarks of the *American Artizan*, an agricultural paper of New-York:

"Bullock's Patent Seed Planter is one of the greatest improvements in agricultural implements that has ever come to our notice. It is for planting seed in hills or drills; is carried in the hand like a walking cane, and every time it is set down it plants a hill, planting the seeds at equal distances apart; a saving of at least one-half the time, and a great increase of crops, in consequence of the seeds all being separated, thereby allowing each stalk sufficient soil for its roots, and a free circulation of light and air, and lastly, the facilities for cultivating, the hills being perfectly even, the plow or cultivator can be worked close to the hill, thereby saving all necessity of hoeing.

For County Rights or Machines apply to A. T. HOLMES, (46 Hudson St.,) Agent for the County of Albany.

Albany, Feb., 1853.—7—1t—m1t.

Super-Phosphate of Lime.

THIS extraordinary fertilizer, the effects of which as a manure and general assistant to soils, has proved itself invaluable to the agriculturist. This most important constituent of the soil is being daily removed and taken up by plants in solution, and unless such substance be returned, fertility must decrease, and land become poor. Its promoting and pushing power of growth, in giving strength to plants while in their young and tender state, fortifying them for early maturity, and enriching qualities, excells over all other manures. It is some ten *years* since its first introduction in England, where also a patent right was granted the first *maker* after the experiment *was* proved of its magic effects on land. The progressive high repute of its properties has caused the demand each year to increase, and at the present time some thousands of *tons* are annually sold to the farmers. The subscriber has had much experience in the manufacture of this manure in Europe, which leads him to suppose he stands unequalled by any other more able competitor. Some considerable quantities were disposed of last season, the beneficial result of which *has caused* all that watched its *power* to send orders for delivery in the coming spring. Being in a perfect powder, it is at once easy in handling, may be *sown* with seed, broadcast, or drilled in. To prevent deception, henceforward all bags or other packages will be branded with the maker's name. It is on sale at the following agricultural warehouses in New-York.

Longett & Griffing, 25 Cliff Street, N. Y., and R. L. Allen, late A. B. Allen's, 189 Water Street, N. Y., where purchasers may be sure of obtaining a chemically pure and genuine article. Enquire for De Burgh's No. 1 Super-Phosphate of Lime. March 1.—m3t.

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ILLUSTRATIONS.